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THE
Criminal
Career

*The Danish
Longitudinal Study*

Britta Kyvsgaard

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The Criminal Career

The Danish Longitudinal Study

How can the average “criminal career” be characterized and how common are career criminals? Does offending become more specialized and/or more serious as people get older? Do female careers in crime differ from those of males in substance or only in magnitude? Britta Kyvsgaard examines these questions through her longitudinal analysis of the life circumstances and criminal pursuits of 45,000 Danish offenders.

This book provides a remarkably broad assessment of the full spectrum of criminal career patterns applied across a wider cross section of population than was ever previously analyzed. The data, unparalleled in size and quality, allows powerful analyses of criminal behavior, even among relatively small demographic subgroups. Kyvsgaard is thus able to make solid assessments of offending patterns for males and females, juveniles and middle-aged adults, and employed and unemployed individuals. Furthermore, she examines the empirical evidence of the effects of deterrence and incapacitation. Her findings suggest rehabilitation as an alternative worthy of further research.

Denmark’s relative homogeneity in terms of race and class offers an interesting and valuable laboratory in which to examine the effects of social circumstances absent these distractions. The comparative framework of the book highlights the extent to which criminal career patterns transcend international borders.

Britta Kyvsgaard is Chief of Research at the Danish Ministry of Justice, chief editor of *Nordisk Tidsskrift for Kriminalvidenskab* (Scandinavian Journal of Criminal Law and Criminology), and a member of the Scandinavian Research Council for Criminology.

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The Criminal Career

The Danish Longitudinal Study

Britta Kyvsgaard

Danish Ministry of Justice



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Foreword and Acknowledgments

Small is beautiful – at least when it comes to studies concerning recorded information on a total population. In a small and rather well-organized country like Denmark, one can carry out extensive research on the life circumstances and experiences of an entire citizenry. This is made possible by the existence of Denmark's centralized person register, a computerized database housing a broad spectrum of information on the social circumstances of all inhabitants. Since data are collected and organized by a single national census unit, local or regional variations are no threat to their uniform character. Data concerning the residents of Denmark's biggest cities, as well as of the country's most rural provinces, are collected and recorded using identical methodologies. Danish register data are therefore generally considered to be of a rather high standard.

The crime register, just one of the centralized registers in Denmark, was computerized in 1979. The research project resulting in this book began thirteen years later.

Although previous studies of the criminal career were an extremely important source of inspiration, the quality and availability of the Danish registers were important motivating factors in the present undertaking. Having read many of the international studies on criminal careers, I became convinced that the uniformity of the Danish registers might help to answer questions compromised by the methodological limitations of previous research.

This research was originally sponsored by a grant from the University of Copenhagen, Denmark, in 1991. The Danish Social Science Research Council later provided money for the continuation of the study. The first Danish version of the report, completed in 1996, resulted in the publication of a book, *Den Kriminelle Karriere* (The Criminal Career), in 1998.

Many colleagues and assistants contributed to the study. Ernst Schaumburg, Jacob Sonnichsen, and Katja Andreassen assisted in programming and computer runs, and the Danish statistician Svend Kreiner acted as adviser for statistical analyses. Academic colleagues from my former life at the University of Copenhagen, especially Professor Vagn Greve and Associate Professor Jørn Vestergaard, provided valuable advice during the research process. My husband, Per Ole Träskman, professor in criminal law at the University of Lund, Sweden, offered important feedback on the manuscript drafts and encouraged my efforts at every step of the process.

I changed positions in 1997, from senior researcher at the University of Copenhagen to chief of the new Research Unit at the Danish Ministry of Justice, and the translation of the book thus took longer than expected. Constructive comments from two anonymous reviewers of the first English version, though prolonging the process, helped to make this second and final English version both more complete and more readable for a non-Scandinavian audience. Among other changes, their suggestions resulted in the addition of a totally new chapter on crime trends and criminal policy in Denmark, as well as a final chapter summarizing the findings and comparing the results of the current study to previous work in the field.

A Danish lawyer living in the United States, Malene Freese Jensen, Ph.D., did the first translation of the book from Danish to English. David W. M. Sorensen, a Ph.D. candidate from Rutgers University and a guest researcher at the University of Copenhagen, produced an exhaustive linguistic revision of that translation. More than this, Dave provided important comments and suggestions throughout the process of rewriting the book in English, as his own research endows him with a priceless knowledge of the literature on criminal careers. Dave was also extremely supportive and encouraging when my spirits concerning the rewriting process, and my enthusiasm in general, were low.

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Copenhagen
August 2001

The Criminal Career

The Danish Longitudinal Study

The Career Concept in Criminological Research

THE TERM “CAREER,” which is of French origin, originally meant carriage road or racing track. Today it is primarily used to connote profession or occupation, especially that which carries the possibility of promotion. The term thus concerns either a profession or the progress in a person’s working or professional life.

Sociologically, the career concept has been used in organizational analyses of structures and changes, in studies related to individual career choices and strategies, and in works which combine the structural and subjective perspectives (Evetts, 1992).

Sociologist Everett C. Hughes is said to have introduced the career concept to the Chicago School (Kempf, 1987). For Hughes, the career is “the moving perspective in which the person sees his life as a whole and interprets the meaning of his various attributes, actions, and the things which happen to him” (Hughes, 1937, pp. 409–10). The career thus becomes the subjective interpretation of one’s relation to and placement in society. Interpretations change over time just as a subject’s life does, and encompass not only paid work or professional activities, but all the endeavors a person is occupied with.

The term “career” was, however, used in criminological studies at the Chicago School before Hughes defined and described it as cited above. In 1930 and 1931 Clifford R. Shaw published, respectively, *The Jack-Roller* and *The Natural History of a Delinquent Career*, both of which used the term “career” to describe the criminal histories of single individuals derived from case studies. Shaw does not define the career term but uses it to describe both the actual *activities* in which his subject is engaged and the *developmental*

process that he observes in his subject's criminal pursuits. It is thus not the subject's interpretation of his position that is the focal point here, but rather an objective description of the subject's activity.

Use of the term "career" to describe a developmental process is even more apparent in Shaw's later work *Brothers in Crime* (1938). In this book he describes the steps in criminal careers via description and analyses of the life histories of five brothers. The book's cover illustration demonstrates the thesis of an escalating criminal career. It shows a staircase where each step represents a certain type of deviant behavior or crime, and where ascending steps suggest increasingly serious criminality. Shaw's use of the career concept can thus be said to have had a relation (albeit peculiar) to the term's definition as "advancement."

Edwin Sutherland's book, *The Professional Thief* (1937), compliments Shaw's work since it also concerns a life history. The book is actually written by a professional thief, since Sutherland has simply set up boundaries and themes and then let his subject write open-endedly about them. Although Sutherland has edited the book, it is the language of the subject that is used. The thief does not use the term "career," but his use of the term "professional" corresponds to it. Being a "professional thief" requires that one make a living by committing thefts and use all of one's (working) hours to do so. It further suggests that one plans in advance on the basis of learned techniques and skills. In this context there is little difference between a criminal career and a law-abiding profession.

Sheldon and Eleanor Glueck were the first to use the career concept in a quantitative criminological study. Their longitudinal investigation of institutionalized young offenders resulted in three major works: *500 Criminal Careers* (1930), a follow-up study, *Later Criminal Careers* (1937), and a final follow-up, *Criminal Careers in Retrospect* (1943). The Gluecks neglect to define the career term, but they seem to use it synonymously with "trajectory" or "life history." Thus, the Gluecks have used the Chicago School's traditional concept of the career as a "life history," but have done so via quantitative as opposed to qualitative methods. This, combined with the longitudinal technique, corresponds to what is found in the career studies dominating today.

The career term has not been used in criminological research in Denmark. The Danish criminologist Karl O. Christiansen performed analyses of individual criminal trajectories early in the 1940s, but used the more Danish term "kriminelle levnedsløb" (criminal life histories) (Christiansen, 1942). By this he meant those aspects of the individual's life that concern offenses and sanctions. Analyses of these matters focus on the

development of individual criminality (*ibid.*, p. 37). "Life histories" thus corresponds to the career term in the present criminological sense.¹

With the Interactionists' adoption of the career term it changes its meaning from a narrow focus on activity to a description of the identity or role change, which can be associated with being labeled as a deviant. It was Edwin Lemert who first described the transition from primary to secondary deviance, and the changes entailed in personal identity and role (Lemert, 1951, pp. 75 ff.). Howard S. Becker, who had done previous studies of occupational careers in the tradition of Hughes, applied the career concept to deviance (Becker, 1966). He believes that the process and movement suggested by the term "career" is also relevant to describing a deviant career, since the latter is developed or formed as a result of a number of occurrences and influences (Becker, 1966, pp. 24 ff.). The Interactions perspective also relates changes in the person's identity to changes in the person's social position. The career is used to describe this process, whereby an individual understands his or her new (deviant) role (see, for example, Archard, 1979). Finally, we must mention Irving Goffman, who instead of deviant careers talks about "moral careers" (Goffman, 1961). The moral career describes the psychic course of development, which signifies the individual's personality, identity, and perception of the self and others. The term is thus used with approximately the same meaning as deviant career, although the psychic change is more strongly emphasized.

The new wave of criminal career studies based on longitudinal designs and quantitative data began in the United States around 1980. Alfred Blumstein and Jacqueline Cohen's analysis of individual crime frequencies is commonly cited as the beginning of the modern era of criminal career research (Blumstein and Cohen, 1979). Wolfgang's Philadelphia cohort study (Wolfgang, Figlio, and Sellin, 1972), which came earlier, used similar quantitative methods and a longitudinal design, but Wolfgang neglected the career concept.

In their 1979 publication, Blumstein and Cohen argue that additional research is much needed in the area of criminal career research: "Despite an enormous volume of research into the causes and prevention of crime, very little is known about the progress of the individual criminal career" (Blumstein and Cohen, 1979, p. 561). They point out that knowledge concerning individual crime frequencies and age-dependent changes in those

¹ However, in the textbook Karl O. Christiansen later wrote together with Stephan Hurwitz, they used the term "criminal career" though not as used here but to connote "advancement" or "professionalism" (Hurwitz and Christiansen, 1983; here according to the Danish version 1971, p. 459).

frequencies (the subjects of their article) is particularly lacking, and that such knowledge is essential for the development of an efficient crime policy, particularly in the area of incapacitation.

In a later report, written together with Paul Hsieh, Blumstein and Cohen describe the “career” as a trajectory of the individual’s criminal activity from the first to the last offense (Blumstein, Cohen, and Hsieh, 1982). At the same time they emphasize that the use of the career term does *not* suggest that offenders are assumed to live off their crimes. “This characterization of an individual’s activity as a ‘career’ is not meant to imply that offenders derive their livelihood exclusively or even predominantly from crime. The concept of the ‘criminal career’ is intended only as a means of structuring the longitudinal sequence of criminal events associated with an individual in a systematic way” (Blumstein, Cohen, and Hsieh, 1982, pp. 5–7).

Blumstein and Cohen came to dominate the National Academy of Sciences’ panel on criminal careers, which was formed by request of the National Institute of Justice (Blumstein, Cohen, Roth, and Visser, 1986). Their final report defines the criminal career in the same manner as mentioned above, as a trajectory study of the individual’s criminal activities. Further, it is argued that criminal career studies should focus on four measures of primary importance: participation (or prevalence), individual crime frequencies (or lambda), the duration of the career, and patterns in offense seriousness.

Summary

In criminological research, the career concept is primarily used to describe a trajectory. This research concerns circumstances surrounding individual trajectories, which start with the first criminal act and end with the last.

Recent American research emphatically emphasizes that the term career is not synonymous with livelihood or profession. However, some conceptual characteristics of criminal career research correspond to aspects of occupational careers. For example, criminal career research examines whether specialization occurs, that is, a tendency to repeat the same type of crime, and suggests that skills necessary to commit more refined and successful offenses will develop through repetition. Here is an obvious parallel to ordinary occupational careers. A similar parallel is found in changes in crime seriousness over time. Escalation in the criminal career corresponds to advancement in an occupational career: One climbs in rank or in seriousness. The analogy between occupational careers and criminal careers is probably unavoidable since both concern the development of skills and techniques, and abide by the fundamental assumption that “practice makes perfect.”

Objectives, Methodology, and Sample

Objectives

IN CRIMINOLOGICAL RESEARCH, especially that from the United States, the question of individual criminal careers has been a central theme since the beginning of the 1980s. Interest in the subject stems from insights regarding variations in individual crime frequencies. The objectives of many career studies have been to examine the possibility of predicting individual crime frequencies and distinguishing between high- and low-rate offenders. An additional aim has been to demonstrate potential means of maximizing the efficiency of the penal system.

The inspiration for the current study originates in the international research. The aim of the study is, however, less goal- and application-oriented than many of the non-Danish studies. The primary purpose of the current analysis is to obtain knowledge about and insight into the distribution of crime at the individual level and to look for patterns in individual offending. "Patterns" refers to similar or consistent trends within or between different aspects of a criminal career, that is, questions like: How is frequency related to desistance? Career studies represent a new method of breaking down and organizing data on the general structure of crime and acquiring basic knowledge about its distribution. This analysis may thus be considered as belonging to the category of basic research in criminology.

In the field of criminology, the outlining of new areas represents an especially potent form of demythologizing. Crime is a popular theme that gives rise to many common, but often inaccurate beliefs about the offender and the offender's behavior. An underlying aim of this study has been to uncover and rectify existing misconceptions and myths.

Even if the knowledge acquired from the study of criminal careers is not immediately applicable, it still clearly represents a significant foundation for the planning of crime prevention strategies. It will undoubtedly be easier and more rewarding to design crime prevention initiatives if those initiatives are based on insight into how criminal careers develop.

Research Themes on the Criminal Career

The individual criminal career concerns a trajectory. A trajectory has a beginning and an end. The study of the criminal career will therefore include considerations of both criminal *onset* as well as *desistance*. The *duration* of the trajectory is a third theme of this research.

In addition to these time-related themes, the characteristics of the trajectory itself will be examined. One characteristic is the activity level of the individual offender and any changes therein over time (that is, the number of criminal offenses the individual commits, or the yearly *individual crime frequency*). Another characteristic concerns the types of criminal offenses and changes they undergo. This subject is examined through analyses of *specialization* and *versatility*, whether there is a tendency to repeat the same form of crime or to commit new types of crime. A third characteristic of the career concerns the *seriousness* of crime. The study therefore also includes an analysis of whether the development of a criminal career necessarily implies an *escalation* in crime seriousness.

The aforementioned themes illustrate aspects of the career itself. In addition is the more basic question of *prevalence*, or what proportion of the population actually commits crimes and can therefore be said to have a criminal career. All these considerations are intricately linked to the modern conception of the criminal career, and all are addressed in this study.

Other Themes of the Study

As opposed to the original plan, the final report includes additional, more goal-oriented substudies. This is due to necessity and possibility.

As in previous research, this study shows a very skewed individual crime frequency. The knowledge that a small percentage of the population is responsible for a significant number of offenses can easily lead to a desire to incapacitate these individuals through imprisonment. The results have therefore necessitated analyses of the possible gains of incapacitation.

During the time period covered by the study, a change in Danish law has lowered the level of sanctions for certain offenses. The data of the study

thus allow for an examination of the effects of lower sanction levels. That potential has been utilized.

Although the analysis of criminal careers can establish background knowledge for general crime prevention strategies, the additional substudies suggest what proportion of crime prevention actually results from manipulations of the penal system.

Is a Danish Study Necessary?

Since a great deal of research has been performed elsewhere in this area, it is of relevance to ask whether it is necessary to perform a new study of criminal careers. Is there reason to believe that this study will contribute to our knowledge of the criminal career?

A number of circumstances speaks to the importance of this study.

First, its sample and data size exceed those of other studies in this field. The Danish registry system (discussed in detail in Chapter 4) allows for electronic analysis of extremely large samples. The primary sample on which this study is based consists of 334,000 individuals aged 15 to 100, 45,000 of which have criminal records. The 45,000 offenders are registered for 180,000 offenses. Given the inherent variability in criminal careers, the low base rate of many of the behaviors examined, and the application of a longitudinal approach, the use of such a large dataset is likely to expose patterns that remain indiscernible in studies with smaller samples.

For instance, the size of the sample and the sampling methods used allow more powerful analyses of the criminal careers of older offenders and women. Most studies concentrate on young males. The current study uses a large, random selection of individuals aged 15–100, and is therefore well suited to investigate career patterns among middle-aged offenders – a group we know very little about. Furthermore, given the inclusion of approximately 170,000 females, the study is also well positioned to examine the criminal careers of women, a group given relatively little attention in prior research, but whose career patterns differ enormously from those of their male counterparts.

Second, this study may offer a particularly valid database for studying the criminal career since the data are presumably more complete and of a higher quality than similar data in the United States. As discussed in Chapter 4, the Danish registries include detailed information on dates, charges, and dispositions, as well as basic demographic and employment data for offenders.

The results of this study do deviate in some important ways from those found in other studies. Some differences are striking, others are more subtle,

but nonetheless suggest important nuances to the seemingly straightforward conclusions drawn in non-Danish research. Both these outcomes are at least in part a consequence of the extent and quality of the Danish registry data.

Third, this study covers a broader spectrum of the criminal career than most other analyses. Previous research has tended to examine only one or a couple of the many conceptual aspects of the criminal career in a single document. The current study examines all the important parameters of the criminal career, providing an interesting opportunity for studying holistically the relationship between diverse patterns in criminal careers. As will be seen, comparative analyses of various aspects of the criminal career provide a richer insight into the overall phenomenon.

Finally, it should be noted that the Danish population is comparatively homogeneous in race, ethnicity, and social class. This homogeneity adds an interesting dimension to cross-cultural comparisons and eliminates many of the extreme variations that complicate U.S. research. In addition, police registry data can be assumed more valid than that found in the United States, since it is less likely to reflect criminal justice system biases against racial minorities or the poor.

Presentation and Limitations

The book is divided into four parts. The first part is dominated by a discussion of the study's methodology and raw data. The abundance of detail in these chapters is necessary as documentation for the quality of the data, the methodological and contextual comparability to previous (non-Danish) research, and the validity of the results.

The second part of the book constitutes its central core. Different themes related to the study of criminal careers are discussed here. The methodology of the current study is also outlined, as are the results, which are compared to the findings of past research.

The crime prevention effect of manipulations of the penal system is addressed in the book's third part, together with a discussion of the latest orientations and techniques used in crime policy both in Denmark and abroad.

The book concludes with a chapter that summarizes and discusses the most important results of the project. Particular attention is paid to findings that differ from those obtained in previous research, differences examined for both methodological and cultural explanations. This chapter also contains reflections on what criminal career research has to offer to our understanding of crime, and its challenges to criminological theory.

Finally, the results from various studies on incapacitation, deterrence, and rehabilitation are discussed from both methodological and policy-oriented perspectives.

This study is based solely on information about crime, gender, age, and social status. Such a narrow spectrum of variables might be assumed to limit considerably the possibilities for analysis. This is far from the case. Almost every analysis resulted in more questions than answers, and often cried out for additional subanalyses, all of which could be undertaken with the available data. The possibilities for differentiation seemed infinite.

Examinations of the main questions are, of necessity, prioritized in this study. Although various substudies are undertaken, specific analyses of the conditions of special groups are excluded.

This study attempts to paint a rich picture of the criminal career as it unfolds in Denmark today. The possibilities for conducting such research do not, however, cease with the conclusion of this particular work. Other scientists are encouraged to pick up where this analysis leaves off.

Summary

This study aims to provide basic knowledge concerning the patterns and development of crime on an individual level. Onset, desistance, and duration of the individual criminal career are of primary interest. The nature of individual crime frequencies, as well as specialization and escalation, are also explored, as are the effects of penal sanctions on altering such patterns via deterrence and incapacitation. Besides adding Scandinavian data to a heretofore largely Anglo-American debate, this study hopes to present a readable literature to the layman, thus helping to counteract popular myths concerning crime and criminality.

Compared to previous research, the study is based on a remarkably large sample, and on data of a comparatively higher quality. Given these facts, the current study is well suited for the analysis of low baserate phenomena, even in regard to subgroup analyses.

Methodology and Validity

A STUDY of criminal careers makes at least three demands of the data on which it is based. They must:

- concern individuals
- concern a period of time
- inform about the time of the incidents

Data for such a longitudinal study can be gathered either through surveys of self-reported criminality or through person-based registers.

Self-reported crime data have the advantage of including a wider spectrum of offenses committed by individuals than that generally found in official registries. Unlike register-based research, undetected crimes and those not reported to the police are measured in studies of self-reported criminality.

The gathering of data through self-report also has some disadvantages, however. The principal one – especially for longitudinal studies – is selection bias. There will be some who do not wish to participate in the study at all, and this refusal rate will increase with repeated interviews.¹ Even if attrition analyses can show that dropouts do not differ from the study sample in terms of basic demographic characteristics, there may still be reason to

¹ The National Youth Survey, an American longitudinal study based on 11- to 17-year-olds, had a refusal rate of 27% at the first interview. After another five interviews only 60% of the initial sample remained. Nonetheless, the principal investigators concluded that it did not influence the results “in any serious way” (Elliott, Huizinga, and Menard, 1989, p. 3). Studies that have succeeded in retaining a greater part of their samples do exist. In fact, the Cambridge Study of Delinquent Development in England lost only 5% of its original study sample over 10 years (Farrington, 1990).

be skeptical, especially if the study includes individuals with great social and criminal strain. It can be very difficult to establish – not to mention maintain – contact with those who commit a lot of crime, and who often live very vulnerable lives.² Furthermore, it is questionable whether adults, and especially high-rate offenders, will be as honest in their reporting as children and young people (Mathur, Dodder, and Sandhu, 1992). Studies based on self-reported crime typically cover younger offenders who have shorter criminal histories. It is unclear to what extent the self-report method is as valid with older samples.

Another disadvantage of self-report studies is that the dating of incidents can be uncertain. Those who have committed many offenses may have particular difficulty later in precisely indicating the order and timing of those offenses.

The self-report method also has practical and economic disadvantages. A study of criminal careers must span several years, during which information should be gathered at least every year (although the optimal interval depends on the specific processes being observed). This is an extremely resource-demanding process.

Finally, there may be ethical problems associated with the self-report method. This is the case if a study includes known offenders. To contact someone who has previously committed a crime may reopen an episode that the individual wishes to put behind him or her.

The other source of data collection, the official register, has the advantage that it is relatively simple and cheap to obtain information about dated incidents for a large number of individuals over a long period of time. Another advantage is that there is no risk of the studied individuals refusing to participate or being difficult to locate. Since the information about subjects is gathered anonymously through registers, there is no need to obtain consent or in any way contact the subjects. Dropout of the kind commonly suffered by self-report studies therefore does not exist for register-based studies.

The disadvantage of the register-based method is that only those offenses that are reported and solved are included in the study. As discussed later, flaws and other weaknesses of the register will also influence the quality of the data.

² This lesson was painfully learned in a previous study where the author interviewed inmates and released offenders. It proved almost impossible to maintain contact with sample members shortly after release, even though very good contact had been established during their confinement, and they had indicated a strong motivation to continue with interviews after release (Kvavsgaard, 1989b).

It is possible to combine the methods of self-report and register data, which has been done in some American and English studies, thus solving some of the problems each method entails. At the same time, however, it creates another ethical problem, as the combination of register and interview data can bring about special difficulties. At a minimum, it requires informed consent from the subjects. Thus, the problem of dropout remains unsolved.

This study is based solely on registry data. Registries contain information about offenses and offenders that is transferred from the central crime register of the Police Commissioner to “Statistics Denmark” for further organization and analysis by the department of crime statistics. Problems associated with register-based research will be discussed generically in this chapter. Specific flaws in the data of the current study are discussed in the following chapter.

Limitations and problems of register-based research can be related to three issues.

The first concerns whether the actual *numbers* are reliable (that is, how and in what way the amount of crime indicated by the register corresponds to actual levels of criminal involvement). This also relates to the question of imperfect registration (whether all reported offenses actually appear in the register).

The second issue is whether the *categorizations* of the crime register are reliable, whether the numbers are categorized correctly, and whether the categorizations are used in standard fashion across time and data entry location.

Finally, it can be asked whether the picture of the *offender* that arises from the crime register is reliable. Is it a random representation of all offenders that is included in the registers of the police, or are there characteristics of offenders, or of police investigatory practices, leading to greater risk for detection and registration for offenses?

These issues require discussion in relation to case processing within the penal system.

From Committed Act to Reported and Registered Offense

It is a trivial statement that not all crime is reported to the police. Adolphe Quetelet was already interested in this problem more than 100 years ago. His solution was simple and corresponds somewhat to Alexander the Great's way of cutting the Gordian knot. Quetelet simply reasoned that an almost constant correlation between committed and reported crime must exist (Quetelet, 1869).

If Quetelet is right then it is relatively uncomplicated to use registered crime in research, since it reports/informs about the same share of committed crime every year. However, quite a bit of empirical research now requires that we question Quetelet's assumption.

The Victim's Inclination to File a Report. When it comes to traffic and other non-penal code offenses, it is primarily the level of police activity that decides the number of registered offenses.

The question of inclination to file a report is, however, clearly relevant in the penal code area. Victimological studies show that the decision to report a crime is neither arbitrary nor random. A Danish study has shown that only approximately half the thefts that victims are aware of are reported to the police, and that larger thefts are most likely to be reported (Balvig, 1980). A similar pattern appears in a Swedish study, although it finds that an even lower number of thefts are reported, around one-third (Persson, 1972, 1980). The same study shows that only an extremely small proportion of violent offenses is reported. A subsequent Swedish study points out that, as with property crime, the inclination to report violent victimization depends on the severity of the crime (Wikström, 1985; see also Kyvsgaard, 1995d). One recent Danish study concluded that only 30% of the victims of violence reported the incident to the police (Rigspolitichefen, 1998). An earlier Danish study showed that "trivial" sexual offenses are relatively rarely reported (Kutchinsky, 1973).

This causes few problems for research, however. In fact, it can be claimed that the interest is greatest in knowing the extent of more serious crime. What can cause problems is that the inclination to file a report does not seem to be constant, but may vary over time.

As for property crime, it has been shown that the possession of insurance is the most significant factor in filing a report (Balvig, 1977; Persson, 1980). This means that changes in the number of policyholders or in the conditions for receiving compensation can lead to variations in the inclination to file reports (see Balvig, 1984a). Since the number of policyholders has grown relatively constantly over the last few decades, it can be assumed that more property crime is being reported. On the other hand, changes in the deductibles and requirements of insurance policies may have had the opposite effect (Balvig, 1977, 1984a).

The importance of changes in the inclination to file reports can be clearly identified by comparing trends in registered crime with trends in victim-reported crime. Victim studies, which have been regularly carried out, indicate that increases in victimization are less dramatic than suggested by reported crime statistics (Balvig 1992; Rigspolitichefen, 1998).

Although changes in insurance situations effect the inclination to file property crime reports, less obvious or measurable changes can influence the inclination to file reports for other types of crime. For example – and parallel to thoughts put forward by Nils Christie – increased urbanization and mobility may increase the inclination to file reports on violent crime (Christie, 1975). A Finnish study shows that an increase in the inclination to file reports has occurred in Finland from 1980 to 1988 (Heiskanen et al., 1991). Recent Danish studies indicate the same, suggesting that the increase in registered violent crime during the 1980s was at least partially caused by an increasing inclination to file reports (Kutchinsky, 1991; Rigspolitichefen, 1998).

The contrary seems to be the case in the area of sexual crime. Berl Kutchinsky (1973, 1999) concludes that the increasingly liberated attitude toward sexuality during the 1960s resulted in a lingering reduction in the inclination to report some forms of minor sexual victimization (Kutchinsky, 1973, 1999). On the other hand, the debate over rape in the late 1970s and early 1980s, together with discussions in recent years about incest, may have resulted in an increased inclination to report these crimes.

In this connection it is worth emphasizing that what is considered *crime* is not decided objectively, but depends largely on a subjective evaluation. When professionals talk about a change in the inclination to file reports, as for violent and sexual crime, such changes typically reflect shifts in popular orientation. When the inclination to report violence increases, it may be because more people are interpreting what they previously considered to be “fights” as criminal violence. And when the inclination to report indecent exposure decreases, it is presumably because the level of tolerance to indecency has increased. In both cases, the number of behaviors (which objectively constitute the characteristics of violence and indecent exposure) can remain totally unchanged, but the number of people who interpret such behaviors as criminal may rise or fall. Consequently, reported crime can increase (or decrease) despite no change in actual behavior.

The Filing of a Report by the Police. If the police do not register all the reported offenses, or if reported offenses are categorized incorrectly, it will influence the quality of the data.

Factors that influence whether the police *register reported crimes* have not been the focus of any study in Denmark. In Sweden, however, they have examined to what extent offenses that victims say they have reported have in fact been registered (Persson, 1980). This research shows that in the great majority of cases, police have registered reported crime. In the cases where

this has not happened, it seems to have resulted from misunderstanding. Thus, it was concluded on this basis that the Swedish police do not consciously “exercise their discretionary power,” but that “the treatment given crime reports appears to be correct and exact” (Persson, 1980, p. 24).

The Swedish study’s characterization of police reports as “exact” brings up the issue of *the reliability of the categorization*. This has also been examined in a smaller Danish study based on reported property crime in a police district. The conclusion corresponds largely to that of the Swedish study, as it is noted that “the total result of the imperfection analysis is very modest corrections” (Balvig, 1980, p. 17 [in Danish]). The automated quality control and validation runs performed by the department of crime statistics on data received from the central crime register also lead to very few corrections (in less than 0.5% of the cases). However, it is only logical mistakes that the automated control can identify.

The available information and documentation thus indicate that the registration of reported crime in Denmark is quite accurate and complete. Still, there may be reason to assume that only the most common, uncomplicated, and objectively defined offenses are categorized correctly. Flaws in the registration of sexual offenses have been identified from time to time (Kutchinsky, 1987).³ It has also been pointed out that the registration practices of the police in the area of violence can vary in small but important ways over time and place.⁴

From Registered Crime to Solved Crime

The crime statistics tell us – to one decimal’s correctness – that the risk of detection varies considerably for different offenses. It is, thus, at best a trivial statement that the risk is highest for the most serious crimes and considerably lower for more petty crimes. Therefore, the *types of solved offenses* included in the crime register is far from a random sample of all committed offenses.

The individual crime frequency also influences the risk of detection. The risk of detection is directly proportional to the number of violations a person

³ The flaws typically consist of overregistrations. For example, a case of incest may be registered the number of times the offender has had sexual relations with the victim. Identification of registration errors generally results in reevaluations of the guidelines for compiling statistics, and thus tends to increase attention to the rules for registration and categorization.

⁴ Kutchinsky (1991) suggests that the police may have changed the categorization process by increasingly categorizing reports of violence as penal code offenses rather than as violations of city ordinance. Also, while otherwise finding that the registrations of the police are correct, Persson (1980) notes that there are reasons to believe that the registration in regard to crimes of violence is not uniform.

commits. In American studies, this has been shown by comparing information about self-reported criminality with data on registered crime (see, for example, Shannon, 1988). Danish studies of self-reported crime have also shown that it is those who commit the most crime who have been in contact with the police most often (Balvig, 1982; Kyvsgaard, 1992a; however, see also Greve, 1972). A Swedish study calculates the probability of being caught in the act for different types of crime (Ahlberg and Knutsson, 1988). The study shows that even though there are great differences in the rate of detection for different crimes, the likelihood of detection increases to 100% – or almost 100% – for all categories as the number of committed crimes increases. This means that all – or almost all – very active offenders are known by the police, at least within the area of traditional crime (see also Persson, 1980).

It seems logical that characteristics of the offender could influence the risk of detection, thus resulting in a social selection process. However, Scandinavian studies that have looked into this question indicate that social selection does not occur. Both a Danish and a Swedish study emphasize that most of the traditional offenses are solved by chance (Balvig, 1984; Persson, 1980). Similarly, American studies, which typically focus on race-related selection, have been unable to find clear evidence of selection bias (Hindelang, 1978).

On the other hand, studies of self-reported criminality provide a somewhat different conclusion. A Danish study of juvenile criminality from 1979 did not find evidence of social selection in the detection methods of the police (Balvig, 1982). The study emphasized, however, that this result could not be generalized to more serious adult crime. A replication study did find a tendency toward social selection (Kyvsgaard, 1992a), as did a recent Danish study of police discretion using participant observation techniques (Holmberg, 1999).

When the question of selection in the penal system is discussed, it is often noted that many studies of self-reported criminality have shown no correlation between social background and crime, whereas studies based on registered crime have shown that such a correlation does exist (see, for example, Greve, 1972; Wolf and Høgh, 1966; Balvig, 1980; Andersen and Balvig, 1984; Weis, 1986; Skogen and Wichström, 1995). If social selection does occur in the penal system it would explain why the different methods yield different results.

Studies of self-reported criminality that show a clear correlation between social conditions and crime do exist. In one of the above-mentioned Danish studies of self-reported crime, individual crime frequencies and the severity

of the crimes committed differed between individuals of different social backgrounds (Balvig, 1982). Yet, when the study was repeated ten years later on a new sample, a direct correlation between the socioeconomic status of the parents and the crime of the children could not be shown (Kvvsgaard, 1992a). An indirect correlation was found, however,⁵ and a weak correlation was detected in a third replication of the study conducted in 1999 (Balvig, 2000).

It should be noted that the measures of social variables used in self-report and register-based studies are often significantly different. For example, self-report studies generally use the employment situation of *the parents* as an indicator of social status, whereas register-based studies typically measure the social conditions of *the offender*. Such differences in measurement can result in large-scale differences in conclusions.

Research utilizing both self-reported and registered information about offenders shows little discrepancy in the results achieved by the two methods. This is indicated in West and Farrington's Cambridge (England) Study (West, 1982), and is also shown in a more recent analysis of American research that uses both methods (Weis, 1986). The latter concludes that most other research supports the convergence of self-report and register-based measures of offending (see also Elliott and Ageton, 1980).

Despite evidence that the circumstances determining whether a crime is solved and registered are random, and that there is convergence between the results of self-reported and registered crime regardless of the social backgrounds of offenders, it can still not be ruled out that some social selection may occur. Giving rise to this suspicion are the significant differences which exist in the socioeconomic characteristics of registered and nonregistered offenders. As will be discussed later, both this and an earlier study indicate that registered offenders are more marginalized (see Chapter 7; Kvvsgaard, 1989b), whereas a more recent study of self-reported criminality finds no direct correlation between social background and crime (Kvvsgaard, 1992a). Methodological differences may explain part of this discrepancy, but they are unlikely to explain the whole.⁶ Furthermore, it is possible that some of the other processing levels and authorities, which have influence on whether and how an offender appears in police registries, contribute to a social selection bias. In the end, selection is influenced not only by the processing

⁵ Although no direct correlation between parental social status and children's delinquency was found, parental social status was related to children's success at school which was itself related to involvement in delinquency (Kvvsgaard, 1992a, p. 94).

⁶ Studies of self-reported criminality are typically limited to ordinary public school students, and fail to capture children who have left school early, or who are placed in institutions, and so forth. (Kvvsgaard, 1992b).

methods of the police and the inclination of victims to file a report, but also by the activities of the prosecuting authorities and the courts (Moe, 1976; Zeuner, 1990).

Finally, it should be emphasized that police processing methods may greatly influence the apparent extent of recidivism by registered offenders. As this study will demonstrate, a large proportion of crime is committed by offenders already known to the police. There may be reason to assume that this proportion is amplified by the methods the police use to solve crimes. It is undoubtedly easier to solve a crime committed by a registered offender, than one perpetrated by an individual unknown to the police. The use of registry data may therefore suggest a criminal involvement by recidivists larger than their actual behavior would warrant.

Summary

Analyses of the limitations of registry research indicate that the *offenses* most likely to be included in the crime register will fail to reflect the actual distribution of crime in the following ways:

- There will be a preponderance of more serious offenses compared to the more trivial.⁷
- There will be a preponderance of offenses visible to both victims and police, compared to offenses committed against large institutions or occurring in nonpublic locations.⁸
- There will be a preponderance of offenses committed against strangers as compared to offenses committed against family and friends.
- There will be a preponderance of offenses that can lead to compensation, and which are covered by ordinary private insurance policies.⁹

The crime register's information about offenses can also vary *over time* as a result of changes in the inclination to file a report or in police registration practices. Such temporal variations are of lesser importance for this study since it concerns a relatively short period of time. Furthermore, the few

⁷This is amplified both by the inclination of victims to file a report and by prioritizations in the detection work of the police.

⁸An English study describes the differences between visible youth crime, which often results in apprehension and sanction, and better disguised adult crime, which operates in a gray zone and private sphere in order to avoid police detection (Foster, 1990).

⁹The inclination to report theft and other forms of property crime is lower if the value of the stolen goods is within the deductible (Balvig, 1980). Victim studies indicate that the proportion of unreported violent crimes is higher than that of unreported thefts (Persson, 1980).

trend analyses included in this study concern “all offenses,” as opposed to subsets of offenses for which the aforementioned problems would be more discernible.

As for the *offender*, research indicates that the registered offender will be more likely than the average offender to have:

- committed many offenses,
- committed more serious offenses,
- committed traditional crime.

Such biases weigh most prominently in regard to penal code violations. As for violations of traffic and other special codes, circumstances such as inclination to report do not play the same role, since most of these offenses are proactively detected and registered directly by the police. In these cases, existing and potential police practices have great importance both for which and for how many offenses are registered. A severe crackdown on certain types of traffic or special code violations would therefore cause an increase in the number of apprehensions.¹⁰ This is because the extent of violations in certain areas is extremely high while at the same time the detection tools of the police are quite efficient. If detection is activated, fish will always be caught.

For violations of traffic and special codes it is thus primarily the control of the police that influences which *offenses* are registered, whereas it is the extent of offenses that influences which *offenders* are registered.

The portion of the crime iceberg visible through the lens of the crime register is thus far from a representative cross-section. It is, on the other hand, the part which includes the most active of the traditional offenders and – at least in terms of penal code violations – the most serious part of the crime.

Whether there are other circumstances which influence the risk of detection in a way that biases the study data is difficult to determine. Studies fueling the suspicion of social bias do indeed exist. On the other hand, studies also exist which indicate convergence between self-reported and registered crime data. There is thus reason to remain cautiously optimistic that the methods utilized herein – within the mentioned framework – will provide a fairly accurate picture of the demographic and social distribution of crime.

¹⁰ The registered number of speeding and other traffic code violations is presumably directly proportional to the extent of police control.

Data and Data Quality

CHAPTER 3 discussed data biases resulting from nonrandom patterns in report filing and detection, as well as peculiarities of the registration and categorization process more generally. The current chapter examines the quality and validity of the study data, and provides a description of the variables used.

The review of the sample on which the study is based also includes a description of data selection, data supervision, and of reformatting and other changes the data have undergone prior to analysis. In addition to documenting the quality of the data and the processing it has undergone, this review provides an overview of the production of the crime statistics.

The Primary Sample

The advantage of a study based on electronic data is that larger samples are just as easily studied as smaller ones. Since register research typically allows for the use of data from nationwide registers, very large samples become easily analyzable. Such is the case with the electronic data on which this study is based.

As crime is a relatively rare phenomenon, a large sample has been defined so that it is possible to perform a number of special analyses. Since some of the analyses require comparison with the population in general, the primary sample has been drawn from a register that includes all residents

in Denmark. “Residents” are individuals with a valid Danish CPR number (Central Person Registration Number).¹

The primary sample has been drawn to include one-fifteenth of those with a valid CPR number. Since all Danish residents are registered under the CPR system, this accounts for one-fifteenth of the total Danish population. Two dates have been randomly chosen and all the individuals born on these dates, in any month or year, are included in the primary sample. However, individuals under age 15 and above age 100 at the start of the study have been dropped from the analysis for reasons explained later. The primary sample thus consists of a total of 333,742 individuals between the ages of 15 and 100.

The study period starts on January 1, 1979, and ends on December 31, 1991. The lower boundary is determined by the time the crime statistics register went electronic; the upper boundary by the commencement of the current research. For these 13 years information has been gathered from two registers: *the workforce register* and *the crime statistics register*.

Register Research and Data Security

The selection of sample cases into a single file and the linkage of data from different registers has been performed by Statistics Denmark. A file given by Statistics Denmark to a researcher contains nonidentifiable data. Names, CPR numbers, special file numbers, and other identifiers linked to names in the criminal register have been deleted and replaced by a system of consecutive numbers. Such processing protects the identity of individual subjects, but still leaves cross-register cases linked and thus traceable over time.

Even though the study file contains anonymous data, Statistics Denmark has instituted a number of additional requirements designed to protect data security.

One requirement is that the study file must not be physically or electronically removed from the offices of Statistics Denmark. This requirement is tightly controlled. Thus all work with the study file must take place in the facilities of Statistics Denmark.²

¹ All Danish citizens are centrally registered under a single “CPR,” or “Central Person Registration” number. Danish CPR numbers are similar to U.S. Social Security numbers in that all national residents are registered under a centralized system. However, whereas the U.S. Social Security system registers residents solely for the purpose of tax collection, the Danish CPR number covers a wide range of citizen-government interactions. In a welfare state like Denmark, that includes not only criminal involvement and tax registration, but also citizen-specific information on domestic status, education, employment, and so forth.

² It is possible – via electronic media – to send programs to Statistics Denmark, which runs them and returns the results to the researcher. However, this method is relatively rarely used.

Access to the data is protected electronically, so that personal access codes are required to gain access to one's own study file. The final security check is performed through an inspection of the tables produced at Statistics Denmark before they are released from the premises. Manuscripts concerning results from register research must be inspected by Statistics Denmark before they can be published. These inspections are done solely to evaluate whether single individuals are identifiable.

The Workforce Register

In order to analyze a subject's social conditions, the study includes information from registers other than the crime statistics register. The original plan was to link crime information with several of the many social registers that exist at Statistics Denmark. Methodologically, however, it would have been very difficult to work with all of this information simultaneously in a longitudinal study. Therefore, besides basic demographic and crime-related data, the study includes information on only one other aspect of the subject's life: relation to and position in the job market.

In a previous cross-sectional study of the life conditions of offenders undertaken by this author, several social variables were simultaneously examined. Here it became clear that almost all variables discriminate significantly between offenders and the population in general, as well as between offenders with different criminal histories (Kyvsgaard, 1989).

In choosing a single additional register from which to work, the current study has adopted information from the workforce register (WFR) because employment information gives a better indication of the social circumstances of the individual and of any changes in this situation, than do other social variables. The WFR provides information not only on one's position in the job market, but also on temporary and chronic unemployment.³ A previous study by this author clearly showed that the chronically unemployed dominate among offenders. It is obvious that information about education and vocational training can be an excellent indicator as far as the very young are concerned. With increasing age, however, significant social changes will normally not be reflected in the education of an individual, but can be expected to manifest themselves in their connection to the job market.

Every year the WFR produces statistics concerning the population's connection to and position in the job market. WFR data is collected each year

³ The "chronically unemployed" refer to those individuals who have more or less permanently lost contact to the labor market. In many cases these individuals have been on public assistance for so long that the system no longer demands or expects them actively to seek employment.

during the third week of November. These data are based on information provided by employers, together with information generated by linking several person-based registers on income.

The study data originating from the WFR thus provide information on the following conditions:

- Gender
- Age
- Employment position (13 categories describe position within the workforce and three positions outside the workforce)
- The extent of employment (5 categories describe the extent of employment in number of weekly work hours)

The WFR went electronic in 1980 (one year later than the crime statistics register). Thus, information is available concerning the position and extent of employment among all primary sample subjects since 1980.

The Crime Statistics Register and Its Composition

Information about crime committed by the sample has also been obtained from the Department of Crime Statistics at Statistics Denmark.

Information from the crime statistics register originates from four register systems: one for dispositions, one for charges, one for subcharges, and one for imprisonments. Information from the different systems is joined through a file number, which can identify records in each case. A “case” is identified and defined through a criminal legal disposition.

In principle, a disposition is always connected to a charge. Thus, beyond a *disposition record* a case will include a *charge record*. If the case concerns more than one criminal incident there will also be conferring cases or subcases. A separate record exists for each subcase. There is no limit to how many *subcase records* can be connected to a single disposition.

In addition to an unconditional sentence of imprisonment, an arrest or detention may also have occurred in relation to a case. Each time an arrest, imprisonment, or similar confinement has occurred, a *confinement record* is created.

To ease programming and analysis, a special “personal record” has been added to the study file, which contains personal information about each subject.

The crime data study file is not flat (that is, does not contain the same type and number of records for every individual in the sample). To the

contrary, both the types and number of records vary. A large proportion of the individuals in the study have one disposition record and one charge record, whereas there are other individuals who altogether have more than 1,000 records spread over the different types of records. The hierarchical structure which exists therefore renders the work extremely difficult, and also increases the cost of the electronic data runs. Rearrangements and simplifications of the study file have thus been carried out as much as possible.

Crime Register Variables

The raw sample which was initially gathered for the study file from the crime statistics register, and which is structured into the different types of records, includes the following variables on subject criminality:

Personal records

- Age
- Gender

A total of 49,348 personal records are included in the raw sample.

Disposition records

- Date of disposition
- Type of crime (primary charge)
- Type of disposition
- Type of suspended sentence (simple detention, imprisonment, etc.)
- Length of suspended sentence
- Type of prison sentence
- Length of prison sentence

A total of 120,074 disposition records are included in the raw sample.

Charge records

- Date of charge
- Type of crime
- The first date of the crime
- The last date of the crime (if the offense has spanned a period)

Fewer charge records were found: 98,321.

Subcase records

- Type of crime
- Type of disposition
- The first date of the crime
- The last date of the crime

The raw sample includes 98,928 subcase records.

Confinement records

- Date of confinement
- Date of release
- Type of sanction (simple detention, imprisonment, preventive detention)
- Type of confinement (arrest, extended arrest, detention, imprisonment, transfer)

A total of 48,100 confinement records are included in the raw sample.

Quality Control

Every register-based research project requires quality control checks to ensure that the data are processed according to the rules and include the right information.⁴ A number of extra quality control runs have been necessary in connection with the current study, because the information about subcases and confinements has not been previously used in research and is only rarely used in the ongoing production of statistics. The quality of these data is therefore unknown. In addition, studies covering such long periods and including so many variables have not previously been performed with data from the crime register. These facts call for a particularly thorough process of data verification.

Quality control has essentially progressed as described below:

Invalid Ages. Some of the personal records showed invalid ages (that is, negative ages or ages far beyond 100 years), which turned out to be a result of the decoding process during which CPR numbers are automatically assigned even if the numbers created are flawed or concern businesses as opposed to individuals. This has been corrected by identifying individuals who were either under 15 (the minimum age of criminal responsibility) or over 100 years old at the time of the crime.

A total of 211 cases of seemingly invalid ages have been identified and removed on the basis of these criteria.

Adjustment in Relation to the Primary Sample. By linking the study samples approximately 800 individuals from the crime register have been found not to exist in the primary sample.

⁴This would not be necessary if the register owner, from whom the study file is ordered and bought, performed the verification. However, he or she does not.

This may be explained by emigration or deportation before the annual registration in the WFR. If the crime has been committed by a foreigner, the individual will be assigned a CPR number during the processing of the case. However, if the individual emigrates after the case is closed – but before the third week of November when WFR registration occurs – he or she will not appear in the WFR.

Another possible explanation is that the individual has died before being counted in the WFR. This would occur if an individual who was registered for crime in 1979 died before the electronic registration of the WFR data was begun in 1980.

Since individuals who are not included in the primary sample are presumably either dead or have emigrated, it has been decided to exclude them from the analysis.

Charges without Dispositions. The longitudinal design of the study has called attention to otherwise unnoticed problems and weaknesses of the crime statistics data, for example, that charges sometimes exist without a disposition. A total of 18,145 charge records without dispositions were found in the raw sample material. Since quality control runs do not give any reason to suspect that actual registration errors have caused the disposition records to be missing, the only other possible explanation is that the charge records have not been deleted by Statistics Denmark as they routinely should be when a case has been dropped by the court and no disposition exists. Every year a number of dispositions and subcases, which Statistics Denmark receives from the crime register, are deleted. The disposition records that are deleted concern, for example, unfounded charges and noncriminal legal dispositions.

Since those charge records that are not connected to a disposition presumably concern offenses which did not lead to a criminal legal disposition, it has been decided to remove these charges from the analysis.⁵

Confinements without Dispositions. Quite a few confinement records have also been found to lack corresponding disposition records. A total of 17,308 confinement records without a disposition record were identified.

Quality control runs show that 97% of the cases in which a confinement record has no corresponding disposition record concern arrests. This suggests that in these cases there has been an arrest, but that it has not led to

⁵ However, the charge records from 1991, many of which lack disposition records, have been retained since these exceptions result from dispositions not having been issued before the end of the year, which is also the end of the study period.

a subsequent criminal legal disposition.⁶ It has therefore been decided to exclude from the analysis those confinement records that are not connected to a disposition record.

Disposition Records without Charge Records. For 22% of the disposition records there is no charge record. Verification runs indicate that missing charges are primarily due to registration flaws (that is, that the case does exist and has been decided, but that a charge record has not been created for it).

A missing charge record is particularly problematic since it causes information about the date of the charge and the date of the crime to be unavailable (as discussed below). But since it does not otherwise influence the study material, it has not been deemed necessary to remove disposition records on this basis.

The Existence of Date of Crime, Date of Charge, and Date of Disposition. The crime register should in principle include information about the date of the crime, date of charge, and date of disposition. If an offense, such as incest, has spanned a period of time, there should be both a start and an end date.

When the study was initiated it was unknown whether the crime statistics register included information in a sufficient number of cases to date the incidents. This was because a previous study indicated that the date of the crime and the date of the charge were very often lacking (Kvvsgaard, 1989).

However, a review of the data herein shows that this is not the case. It shows that:

- There is always a date attached to the disposition;
- when a charge exists, there is always both a charge date *and* a date of the crime the charge concerns; and
- there is usually (88% of the time) a date of the crime attached to subcases.

Altogether this means that the most significant problem for dating is caused by the earlier mentioned lack of charge records in 22% of the dispositions (that is, a lack of both the charge date and of the date of the crime). In these cases the date of disposition is the only information that can date the incident. This proves to be less of a problem than expected, since charge

⁶ A further analysis of these arrests shows that some individuals are arrested relatively frequently without subsequent dispositions.

records are primarily lacking in the traffic code area. Seventy-two percent of the cases lacking charge records concern traffic code offenses, and only 12% concern the penal code. This means that the crime date is lacking in less than 3% of all cases where a penal code offense is the primary charge. Since dispositions in traffic cases are issued relatively quickly, the use of a disposition date instead of a crime date risks little bias.

If one considers the subcases in which a crime date is missing, again, relatively few concern the penal code: 10% of the records concerning penal code offenses lack crime dates, whereas 20% of the traffic and special code violations suffer this problem.

Correct Dating? In order to obtain an impression of whether the dates indicated in the different records are correct, the time lags between the crime dates and the charge dates, as well as between the charge dates and the disposition dates, have been examined.

The former show that in 67% of the cases the time of charge and the time of crime are identical (that is, that the individual was charged on the same day as the offense was committed).

The overlap of these dates in so many cases immediately gives rise to the suspicion that missing crime dates may be being replaced by charge dates. Yet, when the types of cases in which the crime date and the charge date are identical are considered, it seems likely that the crime date is in fact indicated correctly. Ninety percent of the crime and charge dates are identical in the traffic code area; under half of the penal code offenses exhibit overlap between crime and charge dates.

Quality control checks of the difference between the charge and the disposition dates do not raise questions of invalidity. Fifty-two percent of the cases are decided within 3 months, and only 4% last more than 12 months.

The average difference between time of charge and time of disposition has been calculated for different types of dispositions. This shows that conditional waivers of prosecution take a particularly long time (more than 300 days), whereas the time it takes to hand down an unconditional sentence is, on average, approximately 200 days. Ticketed fines are issued relatively quickly: on average within 72 days.

The Existence of Confinement and Release Dates. Confinement records provide information on when and for how long the offender has been confined. It has therefore been essential to establish the extent to which the confinement records include information about time of confinement and release.

Quality control checks show that all confinement records contain a date of confinement. In quite a few cases the release date is missing. This is most common in two types of cases:

(a) Arrests. An arrest may lack a release date because the individual has been released the same day. If the individual is not sentenced to imprisonment, this lack of information is not a problem since information about arrests is not otherwise used in the study.

(b) Transfer from one type of confinement to another (for example, from detention to imprisonment) or from one prison to another. In these cases, missing release dates are caused by the confinement record listing only the date of transfer during the serving of a sentence, which is essentially the correct way of indicating the change since a release does not, in fact, occur. However, this manner of registration creates problems in calculating the period of confinement.

Release dates are missing in an additional 1,255 cases where arrests and transfers cannot be blamed. These are cases where the individual is sentenced to an unconditional sanction, and where the serving of the sentence has begun. In these cases the date of release has been calculated.

In other cases the problem is not a lack of a release date, but of more than one release date. This is interpreted as an interruption of the serving of the sentence. Time in prison is here calculated as the sum of the periods the individual has served.

Other Verification Runs Concerning Confinement Records. Since disposition records provide information on the number and types of confinements, they can be used to validate the actual numbers observed in the confinement records. Quality control runs indicate that confinement records are missing in quite a few cases. Only 69% of the cases where an unconditional sentence has been handed down contain a confinement record.⁷ Confinement records may be missing if an individual has been pardoned, but this will only explain a small percentage of the missing confinement records. A calculation has therefore been performed on the daily prison population as represented in the study's data. This indicates that *confinement records are missing in approximately 25 % of the cases.*

In other cases the problem is that a confinement record exists with information concerning the serving of a sentence, but there is no mention of a

⁷ Since considerable time often passes between the sentencing date and the serving of a sentence, agreement between the information from disposition and confinement records has only been examined for those cases in which the disposition has been issued at least one year before the end of the study period.

sentence of confinement in the disposition record. This is the case for just under 2% of the confinement records. Most of these confinement records relate to a conditional sentence, and a smaller number to a fine.

The study has also examined the average length of time for which individuals are confined in relation to an arrest or extended arrest. Analysis shows that in 99.6% of the cases confinement is within the legally acceptable number of days (that is, up to 4 days).

Changes in the Study File

Apart from the aforementioned changes, a number of additional modifications have been made to the study file to simplify and correct it.

Modifications to the Information from the WFR. The WFR information has been adapted so that individuals with less than an average of 10 hours of weekly work are registered as unemployed. The social conditions of individuals with a very low number of work hours may be more like the conditions of those who are outside the job market than of those who are employed. When the connection to the job market is used as a primary social indicator, it seems logical to recode the data in this way.

Individuals who either die or emigrate will cease to be registered in the WFR. This information is significant since information about these events are not provided from other sources, and since some calculations presuppose that these individuals are alive and in the country at a given time. A code has therefore been created in the final study file that indicates the last year for which WFR information exists for each case.

Changes in Relation to the Type of Disposition. As previously mentioned, unfounded charges and noncriminal legal dispositions are sorted out and deleted as part of the routine processing of crime register data at Statistics Denmark. In this study cases have also been deleted in which the individual has been found not guilty, or in which the question of guilt could not be resolved with any certainty. This may, for example, concern cases that are dropped due to a lack of evidence. Since this study describes criminal careers, it includes information only about cases in which a reasonable certainty of guilt has been established.

Altogether 9,285 disposition records have been deleted on this basis. This corresponds to just under 10% of all dispositions in the sample. The charges which precede these disposition records have also been deleted. Furthermore, all the 14,374 subrecords, which are associated with those disposition

codes, have been deleted. Finally, personal records, which remained untied to any disposition record subsequent to this process, were deleted as well. All in all, 3,209 personal records were deleted on this basis.

Replacement of Missing Crime Dates. In calculations that require a crime date, missing crime dates are replaced by disposition dates. When subcharge crime dates are missing, primary-charge crime dates are used in their place. If the crime date for the primary charge is also missing, the disposition date is used here as well.

Changes in Confinement Records. As previously mentioned, a record is added every time a transfer or change occurs in the status of a sentence being served. These flaws in the confinement file cause complications when calculating time at risk (time “on the street”). The file has therefore been radically simplified.

First, confinement records in which the disposition is not a conditional or unconditional sentence of imprisonment have been deleted. Such confinements can occur even though the individual has not been sentenced to imprisonment, for instance, during the serving of a short sentence in lieu of a fine. This usually involves just a few days of confinement: 7, 10, or 14 days.

Second, records that concern arrests and extended arrests have been removed. Since these involve only one or a few days of confinement they will not influence subsequent calculations. However, records which indicate more than a few days of confinement have been retained, since an erroneous coding of the type of imprisonment may have occurred there. This does not, however, apply to the very long confinements where release has occurred exactly on the anniversary of the admission. There are many reasons for assuming that a registration error has occurred here (that is, that the year is incorrectly coded). These records have consequently been deleted.

After this sorting, a simplification of a more technical nature has been performed on the remaining records, so that records which provide information solely on dates of changes in the type of confinement or transfer from one prison to another have been deleted. This means that cases containing several confinement records but having only one release date will then include only a single confinement record that indicates the first admission date and the release date.

In situations where a case has more than one release date, a number of records corresponding to the number of release dates will, however, be retained. Any other confinement records will be removed according to the same procedure described above, where the first admission date is tied to

the first release date, and a subsequent admission date is tied to the next release date, etc. Such a pattern indicates that the serving of prison time has been interrupted.

In cases where a release date is not indicated in any of the confinement records, but where there is information about an unconditional sanction of imprisonment, release dates have been created artificially. This is done by adding the time the person has to serve to the disposition date, while taking into account a possible release on parole by multiplying time served by two-thirds, the fraction of a sentence actually served by most incarcerated offenders. This has been done in 1,255 cases.

The corrections and adjustments described above resulted in an overall reduction from 48,100 confinement records in the raw sample to 14,555 confinement records in the final sample. It is important to note that this should have no ill effect on the validity of the study. The reduction in confinement records represents only a technical simplification by linking records that in reality are linked, and by deleting those that are of no use to the study. The other major problem with the confinement records, that of missing data, is of another nature. As previously mentioned, confinement records are missing in approximately 25% of the cases. This is of no importance to most of the analyses in this study. However, it is relevant to certain estimations of the effect of incapacitation. When relevant, the missing confinement records are accounted for by pointing out the extent to which the effects should be interpreted as underestimates.

The Final Sample

With data cleaning and reformatting complete, the final sample consists of 333,742 WFR records concerning the employment conditions of all subjects during the study period. In addition, there are 44,698 personal records with information about the gender and age of those registered for an offense; 94,792 disposition records; 73,690 charge records; 84,576 subcase records; and 14,555 confinement records.

Summary

The most significant flaws revealed by quality control checks concern information about confinements. Beyond this a number of minor errors exist, but only ones that risk little bias to the overall project. Systematic quality control has been undertaken, but it has only been possible to validate data quality within narrow margins. Fortunately, however, a Danish study

of the relationship between reported and registered crime has suggested significant convergence (Balvig, 1980). This provides further reason for optimism concerning the data in the current study.

Except for the flaws in confinement records, there is no indication of errors that could seriously bias the results of this study. Danish registers are quite accurate and complete compared to those found in other countries. In American criminology there is often regret over incomplete records and flawed registrations (Weis, 1986). These conditions may have prompted the American criminologist Marvin E. Wolfgang to praise the Danish crime register. In the preface to a book about criminological research based on Danish data, he states: "The reliability and validity of the Danish record keeping system are almost beyond criticism. The criminal registry office in Denmark is probably the most thorough, comprehensive and accurate in the Western world" (Wolfgang, 1977, p. v).

The Longitudinal Design

RECENT INTEREST in criminal careers, which arose in the United States in the 1980s, has been criticized by the American criminologists Gottfredson and Hirschi as a mistaken investment (Gottfredson and Hirschi, 1986). The criticism stems from their perception of the age-crime curve as invariant across time, space crime types, and offenders (Gottfredson and Hirschi, 1990). If this is correct, developmental research becomes moot, since the criminal careers of all people, regardless of demographic or experiential contingencies, will progress along the same trajectories. Differences between individuals will be solely in terms of magnitude, a function of "self-control," or "the extent to which they are vulnerable to the temptations of the moment" (Gottfredson and Hirschi, 1990, p. 87). Gottfredson and Hirschi argue that, given the invariance hypothesis, cross-sectional studies should be sufficient for identifying the causes and correlates of criminality and should be capable of doing so at a considerably lower cost. Believing as they do that all individuals follow a similar age-crime pattern (peaking in adolescence and declining thereafter), Gottfredson and Hirschi further question the usefulness of measurements related to single individuals as opposed to groups (Gottfredson and Hirschi, 1988). These concepts have been criticized as resulting largely from a misunderstanding of the methods and conceptualizations of the criminal career agenda (Blumstein, Cohen, and Farrington, 1988a; Blumstein, Cohen, and Farrington, 1988b). Indeed, there does seem to be some confusion on the part of the critics as to even the meaning of the term "criminal career," which they sometimes incorrectly use synonymously with "vocation," or as solely pertinent to "career criminals" (Blumstein, Cohen, Roth, and Visser, 1986; Blumstein, Cohen, and Farrington, 1988a).

Gottfredson and Hirschi further criticize criminal career research as being overly actuarial (and thus lacking theoretical foundation), and as being conceptually and methodologically driven by an intrinsic belief in incapacitation theory (that the most criminally active may be identified and selectively incapacitated to make the penal system more efficient, as discussed in Chapter 14). Gottfredson and Hirschi conclude that research in the area of criminal careers has failed to confirm its own assumptions. Though only partially true, it would nonetheless seem that the falsification of these assumptions is a significant result in itself, and would not have been achievable via alternative methodologies.

In their critique of the longitudinal method, Gottfredson and Hirschi argue that the use of this resource-demanding technique does not produce any knowledge unobtainable through less expensive cross-sectional methods. They base this belief on the hypothesis that self-control is the unitary variable involved in variation of all parameters of the criminal career (from participation itself to changes in frequency and seriousness, etc.). Indeed, the disaggregation of the motivants of various aspects of the criminal career is the primary issue in criminological longitudinal research (see especially Gottfredson and Hirschi, 1987). This critique must be considered in light of the theoretical leanings of the parties involved. According to Gottfredson and Hirschi's *General Theory of Crime* (1990), criminal propensity is a function of level of self-control, or the willingness to forgo immediate gratification in lieu of long-term benefits. Determined by early childhood socialization, self-control is largely established by age eight, and is essentially irreversible thereafter (Gottfredson and Hirschi, 1990). Given this hypothesis, developmental/longitudinal methodologies, as embraced by the criminal career perspective, offer little hope of providing additional knowledge.¹ Despite such beliefs, however, longitudinal research does seem to have added greatly to our knowledge about individual variations in criminality over the life course (see, for example, Blumstein, Cohen, and Farrington, 1988b; Nagin and Smith, 1990; Nagin and Farrington, 1992a; Sampson and Laub, 1990), especially since such variation appears considerably more sensitive to individual life events and experiences than Gottfredson and Hirschi suggest (Farrington, 1986).

The Delimitation of the Sample

The methodology of the current study differs somewhat from that generally used in longitudinal studies. These differences have implications for how

¹ It has been pointed out that, ironically, the proposed theory can only be tested via longitudinal methods (Janson, 1992).

the study sample is defined and must therefore be discussed in contrast to more typical methodologies.

Longitudinal studies usually focus on a birth cohort or a relatively narrowly defined age group that is followed from childhood or early youth through the end of the study period. In register-based research, criminal trajectories are typically measured from criminal onset through Time N.

The current study combines aspects of both cross-sectional and longitudinal methodologies. This is primarily in regard to the nature of the sample, which includes a “thick” cross-section that constitutes 1/15th of all residents in Denmark, and thus 1/15th of those individuals registered for an offense during the study period. This cross section concerns not only conditions at a single point in time, but also changes in those conditions over a 13-year period. The study can also be described as a longitudinal investigation based on a broad cross-section of both criminal and noncriminal residents. Unlike typical longitudinal studies, it includes not just certain age groups, but all age groups represented in the population register. A drawback to this methodology is that information concerning criminal onset can only be derived from that small portion of the sample (generally adolescents) who incur their first criminal registration during the 13-year study period. Nonetheless, the overall sample is so large (333,742 residents; 44,698 offenders) that the number of cases exhibiting onset during the study period is still larger than the number in most other studies that focus solely on adolescents.

Some of the analyses presented in this study are based on the total study sample regardless of age. Other analyses are based only on those for whom criminal onset occurs during the study period. This group is defined by those who turned 14 or 15 years of age in 1979, and for whom data exist through the age of 26 or 27.² A cohort-defined onset sample is necessary since criminal registry data are only available on subjects during the study period. Thus, there is no way of knowing whether older subjects have criminal histories prior to 1979, let alone their developmental specifics. Onset can therefore only be studied via a sample of 14- to 15-year-olds whose age precluded earlier official involvement with the criminal justice system.

It is possible that differences in sampling technique and composition between this and other studies may lead to difficulties in comparing the results. Furthermore, differences in the current study between the “onset sample” and the total sample may bias the results. This question will be examined through a comparison of the total sample with the onset sample.

²In order to achieve a somewhat larger population, the onset material includes two cohorts.

Table 5.1. *The distribution of crime by type of offense in the total sample and in the onset sample*

	Total Sample, Percent	Onset Sample, Percent
Penal code offenses	55	59
Sexual offenses	0.7	0.3
Violent offenses	3	3
Property offenses	50	55
<i>Burglary</i>	13	18
<i>Shoplifting</i>	7	5
<i>Other theft</i>	5	6
<i>Joy riding and auto theft</i>	5	7
<i>Handling/receiving stolen</i> <i>property</i>	3	2
<i>Robbery</i>	0.4	0.5
<i>Vandalism</i>	2	3
Other penal law offenses	2	2
<i>Drug offenses</i>	0.5	0.2
Traffic law offenses	35	33
Drunk driving	8	5
Vehicle defect offenses	6	11
Other traffic law violations	20	17
Special laws	10	8
Euphoriant Act ^a	4	3
Firearms Act	2	3
Other special acts	4	2

^a This primarily concerns so-called soft drugs such as hashish and marijuana. The possession of minor quantities of hard drugs may also be included under this law, but larger quantities are dealt with under the penal code.

The total criminal registration sample includes 44,698 individuals and 179,368 offenses. The onset subsample includes 3,287 individuals and 18,422 offenses. The crime frequency is thus somewhat higher for the onset sample, which means that analyses of individual crime frequencies in the total sample, which combine age-specific rates of offending, will show a relatively lower frequency.

As shown in Table 5.1, there is substantial overlap between the offenses included in the two samples. Yet differences do exist. Most striking are the differences in the two samples between the number of burglaries and certain forms of traffic offenses. However, since the analyses of aspects of the

Table 5.2. *Single-registration offenders in the total sample and the onset sample, by type of offense*

	Total Sample, Percent	Onset Sample, Percent
Penal law offenses	23	24
Sexual offenses	0.3	0.5
Violent offenses	1.5	1.1
Property offenses	20	21
<i>Burglary</i>	1	2
<i>Shoplifting</i>	11	9
Other penal law offenses	1	1
Traffic law offenses	68	69
Drunk driving	12	4
Vehicle defect offenses	15	31
Other traffic law offenses	36	32
Special laws	10	7
Euphoriants Act	2	3
Firearms Act	1	1

criminal career other than onset are rarely based on detailed divisions of the offenses according to type, this difference will have little effect on comparability to other studies.

An exception lies in the analysis of single-registration offenders (offenders with only a single registration during the 13-year study period). For this group, the differences between the offense patterns of the total and the onset samples are, as shown in Table 5.2, even less than they appear in Table 5.1. Here only shifts between different types of traffic code offenses are found, which have little importance for the portrayal of single-registration offenders.

To ensure that the specific composition of the two samples has not biased the results, analyses based on both samples have been performed in a number of cases. Most of the analyses are also related to age, where any method-based biases should be detectable. Such precautions greatly reduce the risk that sample composition factors will be responsible for any apparent differences between the results of this research and previous studies.

There are reasons to believe that the unique composition of the sample in this study has a number of advantages over studies based on a single or a few cohorts.

First of all, data are available to chart criminal careers in all age groups. Many other longitudinal studies provide information solely on the criminal careers of young offenders since they usually have information only to the age of about 30.

Second, the study sample herein provides a better opportunity for comparing the development of criminal careers among men and women, because female offenders are generally somewhat older than their male counterparts. Studies based on younger cohorts may miss important differences in the age distribution of crime for men and women. Furthermore, given the low base rate of female offending and the small sample sizes commonly used, many studies have lacked the ability to perform detailed analyses of female criminality.

Finally, the current sample also provides a better opportunity for examining the effects of differential sanctioning. The sanctions that younger offenders receive are often different from those that older offenders are given. In particular, younger offenders are relatively rarely incarcerated. Analyses concerning the effects of incarceration are thus more readily performed with a sample that includes older as well as younger offenders.

Crime Trends and Criminal Policy in Denmark

THIS STUDY focuses on patterns in the criminal career. In order to gauge whether its results are dependent on circumstances unique to Denmark, it is necessary to provide a brief introduction to Danish culture, crime trends, and criminal policy.

The time span of the current study is 1979 to 1992, so this description will center on the situation in the 1980s. Data on crime trends are derived primarily from police and court records, as the current study is based on official police filings, convictions, and other types of dispositions.

Since many of the studies referred to in the book are English or American, some comparisons will be made on the levels of crime and conviction in Denmark, England, and the United States.

General Information

Denmark is a comparatively small country both in size and population. It comprises only 43,000 square kilometers (an area twice the size of the state of New Jersey) and has had a relatively stable total population of 5.25 million inhabitants during the past two decades. One-fifth of the population live in the capital, Copenhagen, and another 9% live in the three largest cities in the provinces. Forty-five percent live in small cities of under 10,000 inhabitants or in the countryside. This situation was somewhat different just half a century ago, as agriculture remained one of the principal industries up through the 1950s. The close ties to farming, which many Danish citizens still have, may be an important factor in the comparatively high level of primary social control found in Denmark.

Emigrant workers from southern Europe began arriving in Denmark in large numbers in the early 1970s, followed somewhat later by an influx of refugees from various nations. Nonetheless, Denmark remains a rather homogeneous country. During the mid-1980s, only 3.5% of the total population had a non-Danish heritage.

The Danish legal system is closely related to the legal systems of the other Nordic nations, Norway, Sweden, Finland, and Iceland. This results from both informal, intimate contact between the Nordic countries, and outright political unification at various junctures in history. During the last century, the close relationship between the Nordic countries has been maintained through intense cooperation in many fields and endeavors, not least within the field of law. A standing Nordic committee has for many years worked toward harmonizing the penal codes within the Nordic countries.

In a broader perspective, the Nordic legal systems bear greater resemblance to the civil law systems of Germany, France, and continental Europe than to the common law systems of England and the United States (Tamm, 1996). They do, however, differ in certain ideological ways from those found in continental Europe (*ibid.*). For instance, they tend to favor pragmatic solutions over decisions based strictly on legal theory, and they exhibit relatively strong confidence in the welfare state. Furthermore, the Nordic legal systems are characterized by a significant element of corporatism, since they look favorably on the involvement of interest groups in various decision-making processes.

In constructing penal law, parliamentary legislation provides broad guidelines as opposed to detailed regulation. The ministries then form the more precise wording. All staff members within the legal system are appointed administratively; there are no politically appointed employers within the system.

Contrary to many other countries, including England and the United States, Denmark has no separate system for juvenile justice. There are no special laws or status offenses applying only to children or adolescents, nor are there any special courts handling criminal cases concerning only young offenders. As is the case in the other Nordic countries, the minimum age of criminal responsibility in Denmark is 15 years. This means that if the crime is committed before the fifteenth birthday of the offender, he or she cannot be prosecuted. The case will be handed over to the social authorities who, based on an evaluation of the social circumstances of the offender, may recommend personal support, supervision, temporary placement in a foster home, or institutionalization.

There are, however, special rules aimed to provide a more lenient sanctioning policy for offenders between the ages of 15 and 17. Withdrawal of charge, which resembles probation, and fines are both widely used in connection with young offenders. The maximum prison sentence for youth below the age of 18 years is 8 years, but prison sentences are rarely imposed and even more rarely executed. Young offenders who are sentenced to confinement often serve their sentences in an institution outside of the penal system.

What Is Criminalized

The present penal code dates back to 1930 with a number of amendments since then. The penal code deals with the traditional types of crime, the main groups being property, violent, and sexual offenses. Drug offenses form a relatively new part of the penal code (see Langsted, Garde, and Greve, 1998).

Special laws pertain to specific areas such as tax, stock trading, working environment, pollution, and weapons, but the most severe cases of tax evasion are handled within the penal code. Minor drug offenses concerning cannabis or the possession of small quantities of hard drugs are also handled within the special laws. Serious traffic violations, including drunk driving, represent the most prevalent set of offenses included under the dictates of the special laws category.

The difference between the penal code and the special laws tends to reflect the types and severity of typical sanctions, as the penalty for most violations of the special laws is a fine whereas penal code offenses have traditionally resulted in imprisonment. This traditional distinction has become somewhat blurred over the years, as many penal code cases now result in fines.

The current study pertains to all offenses that have led to a penal disposition, whether a fine, a suspended sentence, a prison sentence, or one of the other types of sanctions mentioned below. Traffic offenses resulting in a minor fine are not registered as dispositions, and are therefore excluded from the current study.¹ As can be seen from Table 5.1, the inclusion criteria used here result in a group of offenses representative of the types of crimes normally included in criminal career research: property crimes, violence, sexual offenses, drug offenses, drunk driving, and violations of firearms acts. This study does, however, include certain motor vehicle offenses normally excluded from such research, at least in American studies, such as vehicle

¹ Up until July 7, 1988, the margin for fines to be included in the criminal register was 800 DKK (approximately 100 USD). It was then raised to 1,000 DKK (approximately 125 USD).

defect offenses, speeding,² reckless driving, and driving without a license, etc. Moreover, certain violations of the special laws included here are probably unique to the current study. Despite these inclusions, approximately 80% of the offenses comprising the focus of this current study are identical to those typically found in studies of the criminal career. The inclusion of the other 20% of offenses generally not found in U.S. or other international research suggests that all else being equal, the Danish study should be expected to show somewhat higher rates of participation and frequency than previous research.

On the other hand, the absolute levels of offending found here might be lower than those obtained in studies based on measures of juvenile delinquency, since "status offenses" do not exist as such in Denmark, and are thus unregistered by the Danish penal system. Studies focusing on the delinquency of young offenders generally fail to reveal the extent to which they concern penal law offenses as opposed to status offenses. It is, however, reasonable to assume that the latter constitute a significant proportion of the dependent variable, especially in studies concerning very young offenders. Similarly, self-report delinquency research should be expected to find a somewhat higher rate of participation and frequency than the current one. This is because self-report studies typically include a much broader roster of behaviors, and often include offenses that may not have been serious enough to have resulted in official scrutiny, much less arrest. Many of these studies include status offenses as well, which clearly inflates measures of both criminal participation and frequency. In general, one should be cautious in comparing rates of offending derived from studies like the current one with those that include juvenile delinquency or utilize self-report methods.

The Crime Rate

As in many other western European countries, the number of reported penal code offenses increased dramatically in Denmark during the 1960s after a rather stable situation during the 1950s. From 1960 to 1980 the number of reported penal code offenses more than tripled. This upward trend continued until 1987. From then through the end of the 1990s, the yearly number of reported penal code offenses was quite constant with only minor fluctuations. As with many other nations as well, the 1990s ended with a decrease in overall levels of reported offending.

² It is important to note that only serious speeding is included due to the exclusion of minor fines.

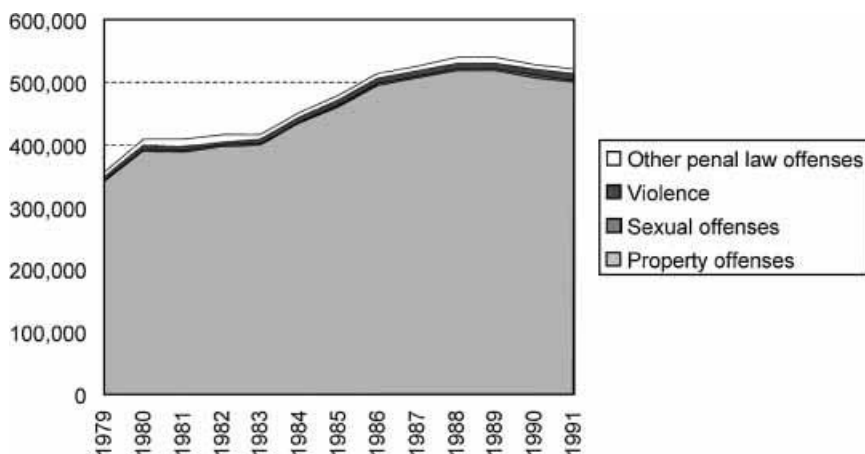


Figure 6.1. The number of reported penal law offenses distributed by type of crime, 1979–91.

Crime rates drawn from the period of the current study are shown in Figure 6.1. During that period the number of reported penal code offenses increased by nearly 50%.

Unfortunately, no research has examined changes in reported crime during the 1980s as a function of more widespread social change. It is therefore difficult to say with any certainty what might have influenced these trends, or to what extent changes in the number of reported crimes reflect actual changes in criminality as opposed to changes in the inclination to report offenses to the police. Nonetheless, some possible explanations can be highlighted and discussed.

One important factor influencing changes in the number of reported penal code offenses during the last decades has probably been demography. Fluctuations in the birthrate have been quite large in Denmark. The rate of birth decreased by 42% between 1968 and 1983, followed by a 30% increase between 1983 and 1998. However, this only partly explains the development during the 1980s, since it primarily pertains to the stagnation in the increase of reported offenses in the late 1980s.

Demographic changes may affect the actual number of crimes committed, whereas changes in the purchase of private property insurance will affect the inclination to report an offense to the police. Insurance companies demand to see a completed police report before compensating the policyholder for stolen goods. Since victimization studies indicate relative consistency in property crime victimization during the 1970s and 1980s

(Balvig, 1987, 1995) it seems reasonable to assume that the apparent increase in property crime during the 1980s at least partly reflected an increase in the inclination to report such offenses to the police.

The extent to which changes in the number of reported offenses reflects changes in moral values is always an important but difficult question to answer. A survey concerning the moral values of Danish citizens carried out in 1981 and replicated in 1990 may shed some light on this issue. The surveys show that social conservatism increased in Denmark during the 1980s, although there was a weak, but simultaneous decrease in the moral condemnation of crimes against public authorities (Gundelach and Riis, 1992). In general, however, the survey concludes that to the extent that moral values did change in Denmark during the 1980s, that change was toward a more restrictive direction. Unfortunately, this brings us no closer to explaining changes in the reported crime rate, since changes in moral values might affect both criminal behavior and crime measures in complicated ways. For instance, an increase in moral sensitivities may restrain criminal propensities and thereby reduce the actual level of offending. On the other hand, such changes may also increase the inclination to report such offenses to the police, since a more conservative attitude is likely to result in less tolerance for misbehavior.

Changes in the number of reported penal code offenses are almost entirely due to changes in the number of reported property offenses. As in other industrialized, western nations, Denmark can be characterized as a nation where property offenses dominate the crime situation (Balvig, 1987). Ninety-five percent of crime reported to the police concern property: burglary, shoplifting, theft of cars or bicycles for the purpose of limited use only, other types of thefts, vandalism, fraud, and forgery. Only 2% of the reported offenses are violent, and less than 1% are sexual offenses. The remaining part relates *inter alia* to drug offenses.

This is also illustrated in Figure 6.1. The growth in the number of reported penal code offenses was first and foremost produced by an escalating number of reported property offenses, especially burglaries and other types of thefts. Even though it had little effect on the overall trends in reported penal code offenses, an increase in the number of reported violent crimes did occur in the 1980s. The increase was especially strong for threats and minor assault, but no increases were seen for more serious violence such as aggravated assault, attempted murder, and manslaughter.³ Sexual offenses,

³ As discussed later, this increase in violence was at least partially the result of an amendment passed in 1989 that enlarged the scope of public prosecution.

as well as most other penal law offenses, entailed neither large nor clear changes in their annual numbers throughout the 1980s.

The number of reported penal code offenses is highly affected by the inclination to report, but the number of traffic law offenses is nearly totally dependent on the activities of the police themselves. Even though drunk driving may be reported by citizens, normally these types of offenses are detected through police control, meaning that changes in police activities will influence the number of offenses reported. During the period of the current study, there was a 20% increase in the number of police-recorded traffic law violations, indicating an increase in police patrolling in this area.

What Kinds of Sanctions Are Used

The Danish penal system can be characterized as rather traditional, since the same types of penal sanctions dominate today as at the beginning of the 20th century. Apart from the period between 1930 and 1973 (when a number of indeterminate sanctions were part of the penal system⁴), the sanctioning system has been continuously dominated by imprisonment, suspended sentences, and fines. Today nearly all confinements in Denmark are determinate sentences, and the maximum determinate sentence is 16 years. Preventive detention does exist, but it is very rarely used. Such is the case, too, for lifetime imprisonment, which on average is imposed only once a year.

Suspended sentences often imply supervision, and are therefore very similar to what is known as probation in other countries. As mentioned above, withdrawal of charge is a disposition used primarily in connection with young offenders, and is also very similar to probation.

Parole is widely used. Of the offenders sentenced to imprisonment for three months or more,⁵ 85 to 90% are ultimately released on parole, in most cases after having served two-thirds of the sentence, but sometimes even earlier. Half of the parolees are supervised by the Probation Service after release, generally for one year; the other half have no special conditions attached to their parole.

⁴It was the treatment ideal that lay behind the use of indeterminate sanctions like borstals for young offenders, forced workhouses for recidivists, and detention for psychopathic criminals. They never came to dominate the penal system in terms of frequency, but played an important role in other ways. All these special sanctions were revoked in 1973 due to the inequality they produced and to a lack of proven effectiveness (see also Greve, 1996b).

⁵Until 1982 the minimum sentence permitting parole was four months.

Community Service was introduced on an experimental basis in 1982, and made statutory in 1992. During the 1980s, however, the number of sanctions involving community service was very limited.

Community measures are also available in conjunction with incarceration. Inmates can be granted both stationing and furlough, that is, permission to leave the institution during daylight hours or around the clock, respectively. Stationing and furlough are generally granted for periods of 3 months or less at some point during the last 5 months of a prison sentence. As most confinements are for less than 5 months, the majority of inmates are not affected by these community measures, but they do play a significant role in connection with long-term sentences.

Sanctioning Practice and Policy

As throughout the second half of the 20th century, fines remain the most common sanction used in Denmark today. During the 1980s, nearly half the penal code violations resulted in a fine and fines were used in about 90% of the special laws cases (mostly traffic code violations). Suspended prison sentences are the second most common sanction in Denmark. Roughly one-fourth of the penal code cases conducted during the 1980s resulted in a suspended sentence. Imprisonment, the leading penal code sanction earlier in the 20th century, took only third place during the 1980s. Just over one-fifth of the penal code cases during that decade resulted in imprisonment. Withdrawal of charge is the result in the remaining criminal code cases, amounting to about 5% of the sanctions used.

According to comparative research, Denmark is characterized by an abundance of short-term prison sentences (Greve, 1996a). Although broad consensus exists as to the harmful effects of imprisonment, Denmark is still among those countries in Europe that most frequently apply confinement. The sentences are generally very short, however. One reason for this is that drunk driving, an offense pursued rather eagerly in Denmark, often results in a prison sentence of 10 to 20 days. During the late 1980s, the average sentence of time in prison was just over 3 months. This includes sentences for all types of misconduct. The average sentence specifically for penal code violations is also very short, 6 months. Only 10% of the inmates sentenced for penal code violations are serving a prison term of more than one year.

Denmark's incarceration rate was 61 per 100,000 inhabitants⁶ in 1990. As shown by Figure 6.2, the average number of prisoners changed very little

⁶ This figure includes persons in custody.

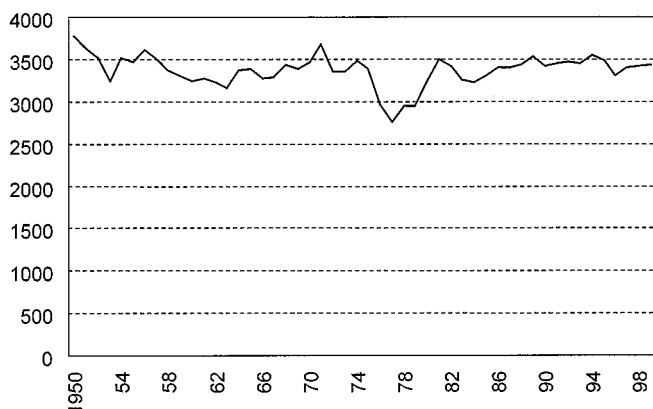


Figure 6.2. The average number of prisoners, 1950–99.

during the period of the current study, or for that matter, during the last half-century. However, considering a roughly 25% increase in the Danish population since 1950, the incarceration rate has actually decreased somewhat. Compared to other European countries, Denmark has historically belonged to that group with the lowest rates of incarceration (see, for example, Prison Information Bulletin, 1992).

Denmark has been able to maintain a rather stable incarceration rate despite a large increase in reported crime. A detailed explanation for this is beyond the scope of the current study, but some facts deserve mention. First and foremost is the ever increasing and rather general consensus that imprisonment harms the prisoner and should therefore be used only in the most serious cases. Long sentences are seen as especially damaging whereas – as mentioned above – there is less reluctance to use short-term sentences.⁷ Furthermore and more broadly, Denmark considers criminalization in general a political tool of last resort (Nordskov Nielsen, 1999).

Another important reason for the relatively lenient Danish incarceration policy is that the Danish criminal justice system has until recently been something of a nonissue within the general political scene. This is perfectly illustrated by a 1968 conversation between a newly appointed minister of justice and the former director of the Danish Correctional Service. The new minister told the director that the change of administration would not affect

⁷ It should be added that the sanctioning policy regarding drunk driving has recently been altered to decrease the use of short-term incarceration. Many drunk drivers are now offered community service instead of a prison sentence or are given the opportunity to engage in treatment programs for alcohol abuse as an alternative to incarceration.

criminal policy, as that was seen as an objective and impartial matter as opposed to a political one (Nordskov Nielsen, 1999, p. 276). Since 1950, most amendments to the penal code have been prepared by a standing committee of representatives from the criminal justice system and the universities, and have often been adopted without modification (Greve, 1996b). Besides this, government officials, with roots in a liberal tradition, have substantially influenced criminal policy. None of the officials within the criminal justice system is elected.

There are, however, more prosaic reasons for the stability in the Danish rate of incarceration, as reluctance to spend money on building and running more prisons has also played an important role in criminal policy.

Stability and Change in the 1980s

Generally speaking, the public debate on criminality and criminal justice was rather calm during the 1980s. What attracted attention was a much more widespread problem: unemployment. With the exception of a short period of improvement, the unemployment rate increased steadily from approximately 7 to 10% during the 1980s. A minor recession in 1987 wiped out the savings of many families and a number were forced to sell their homes. In a situation like that crime becomes a minor problem.

Crimes of violence, however, always attract interest. During the 1980s, reports of violent offenses increased by around 50%, giving rise to concern. As mentioned above, however, a closer look at the figures reveals that the increase in violent crime reports was due solely to an increase in the number of relatively minor assaults. And even this finding is questionable, as victimization and other studies have indicated that the apparent increase in violent offenses was due more to an increased inclination to report violent incidents to the police than to any significant change in the rate of violent behavior (Kutchinsky, 1991; Rigspolitichefen, 1998).

Many years ago, William I. Thomas asserted, "If men define situations as real, they become real in their consequences" (Thomas, 1923, p. xii). This is certainly pertinent to criminal justice policy. Situations within the criminal political arena are seldom defined by scientific or statistical facts, but more often by headlines and sound bites in the media. And the Danish media of the 1980s were keen on defining the situation as alarming, as were some politicians. A series of ongoing opinion polls, which commenced in the mid-1980s, supported the impression of a problematic crime situation as respondents reported being more concerned about crime and violence than about a number of other rather important social problems.

But it was not only violence that was of concern during the 1980s. So were drug-related crimes. A relatively heavy increase in the number of burglaries at the start of the 1980s sparked widespread discussion on the number of crimes committed by drug addicts. Poor economic circumstances and unemployment fostered a climate of exclusion and marginalization, a situation that probably increased the public's tendency to focus on crimes committed by those having the most marginal position in society. There is no doubt that a significant proportion of the burglaries committed in the early 1980s was attributable to drug addicts. However, the extent to which the increase was actually produced by drug addicts has never been fully explored.

Looking back at the 1980s, there seems to have been no connection between the criminal policy that was enacted and the alarmist discussions in the sensationalist media, the public forum, or even among the politicians. Criminal policy simply was not an important political question.⁸ There were some political proposals aimed at tightening up criminal policy (inter alia, abandoning parole and widening the access to detention for persons charged with violence) put forth by the coalition of right wing parties governing Denmark from 1982 to 1992. However, they were not able to assemble a majority in the parliament.

So just what *did* happen in criminal policy during the 1980s?

Danish criminal policy is often characterized as rather pragmatic. Much of what happened during the 1980s can be understood from that perspective. In the beginning of the decade, the penal system was faced with a very specific problem demanding attention: 10,000 offenders were waiting on line to serve a prison sentence. Overcrowding prison facilities is not an available option in Denmark. The only politically feasible options are to increase capacity or to lower the levels of punishment. The Danish parliament chose the latter. In the first year of the decade, some of the short-term prison sentences for drunk driving were replaced with fines, the sentence length for obtaining parole was reduced, and the sanctioning options for most property crimes were lowered.⁹ Furthermore, some offenders who had been waiting a long time to serve a sentence were pardoned.

Even when pragmatic in nature, changes in criminal policy are usually guided by general principles and ideas. The general principle behind lowering the sanctioning options for property offenses, for instance, stems from

⁸ The situation changed enormously during the 1990s. By the end of the 20th century, the trend in Denmark in regard to criminal policy was very much in line with what can be found in England and the United States, that is, giving criminal policy a much more central political position.

⁹ The latter amendment will be further discussed in Chapter 15.

the long-term Danish policy of reevaluating the relation between the punishment levels for violent and property offenses. The wish to lower the sanctioning levels for property offenses emanates from a consensus that the harm caused by being burglarized or being a victim of other property crimes has declined as social security and the use of private insurance has increased.

The introduction of community service in 1982 can also be seen as a means to downgrade the sentences for property crimes. Community service was designed specifically for use with property offenders. Violent offenders were largely denied this alternative. Although violence was an important parliamentary concern, and a proposal to increase efforts to prevent and deal with violence was adopted, the types and severity of sanctions for violence remained rather constant during the decade. The only violence-related amendment of any importance put through during the 1980s was a law that further restricted the types of knives one can legally carry in public settings.

Apart from the ongoing reevaluation of sanctioning severity for violent and property offenses, the period was also characterized by an increased focus on white-collar crimes, not least environmental crimes. These types of crimes were increasingly perceived as more serious than before, and several proposals to increase the severity of sanctions for economic criminality were put forward.

Changes in technology also called for legislative action. The concept of computer-related crime was introduced in Denmark as in many other countries.

The criminal policy of the 1980s also reflects an increased focus on crime prevention and victims' rights. The Danish Crime Preventive Council was founded in 1971, and has steadily broadened its scope and gained widespread recognition. The special Danish angle in crime prevention is increased cooperation between local authorities – schools, police, and social authorities – in preventing crime among children and adolescents. Victims' rights were enhanced in 1985 by provisions to ensure a legal claim on compensation. And in 1988, victims of rape and violence were granted automatic access to the assistance of an attorney. It is important to note that, in contrast to developments in the United States, the expansion of victims' rights in Denmark does not include the right to provide testimony concerning or otherwise influence decisions regarding the punishment or parole of offenders.

The Danish Crime Rate in a Comparative Perspective

National crime rates will clearly influence at least some of the findings in a study of criminal careers. It is therefore reasonable to ask whether the

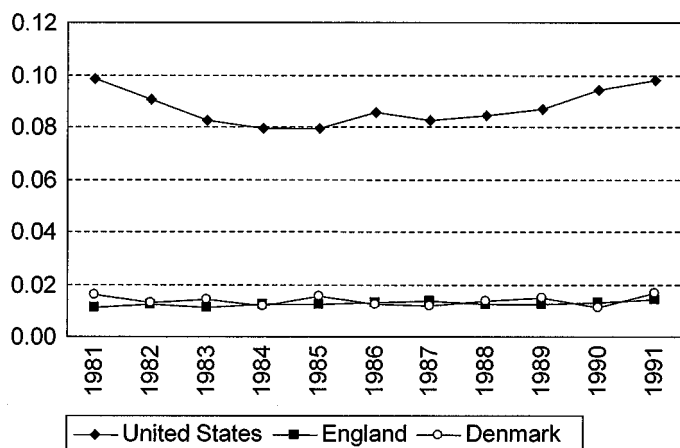


Figure 6.3. Police-recorded murder rate per 1,000 population.

findings of the current study can be legitimately compared to those produced in other countries, particularly countries that have engaged in similar research. This line of questioning might best begin with an examination of the number of police-reported offenses, by category, in the United States, England (including Wales), and Denmark. The data for the United States and England are borrowed from a Bureau of Justice report (Langan and Farrington, 1998; also available on the Internet), whereas the data on Denmark originate in annual reports on crime statistics from Statistics Denmark.

The police-recorded murder rate in Figure 6.3 includes murder and non-negligent manslaughter in the United States, and murder/manslaughter and infanticide in England and Denmark. As can be seen, the rate of murder is very much the same in England and Denmark, but about five times as high in the United States.

Rape is defined as forcible penetration of a female in the United States and England; in Denmark it also includes sexual relations other than sexual intercourse (for instance, anal and oral sex, or forcing a woman to masturbate the offender). The Danish concept of rape also includes intercourse and other sexual relations obtained through unlawful coercion other than violence or threat of violence. The rate of rape increased a bit in the United States during the study period. It increased somewhat more in Denmark in the beginning of the 1980s and then stabilized. England was the country with the lowest rate of rape in the beginning of the 1980s, but its rate more than doubled during the study period, and by 1991 was nearly the same as

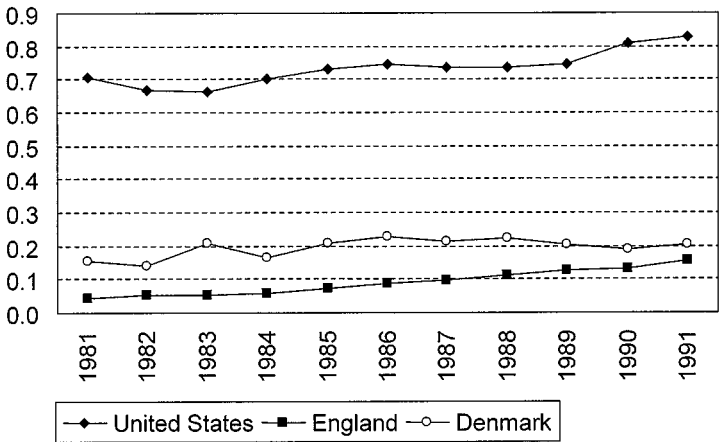


Figure 6.4. Police-recorded rape rate per 1,000 female population.

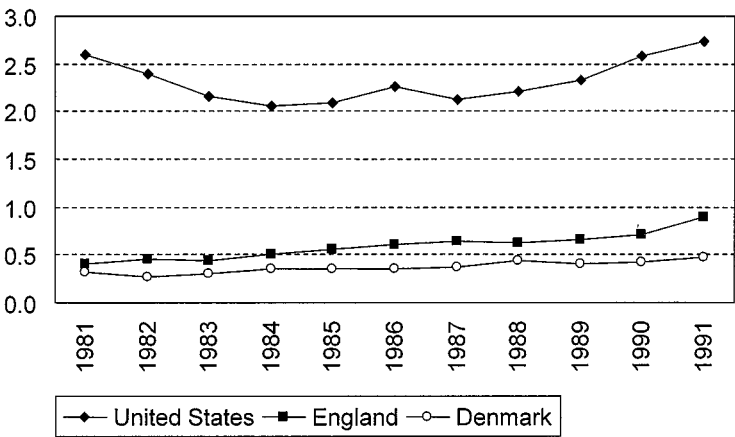


Figure 6.5. Police-recorded robbery rate per 1,000 population.

that of Denmark. Both England and Denmark had rates more than four times smaller than that of the United States. See Figure 6.4

The definition of robbery used by all three countries includes all types of robbery. The U.S. rate was between five to eight times as high as that found in Denmark, and three to five times as high as that in England (see Figure 6.5.). Trends during the 1980s were fairly similar in England and Denmark: an overall tendency to increase, though the increase was somewhat larger in England than in Denmark. In the United States, the robbery rate decreased in the beginning of the 1980s, followed by an increase thereafter.

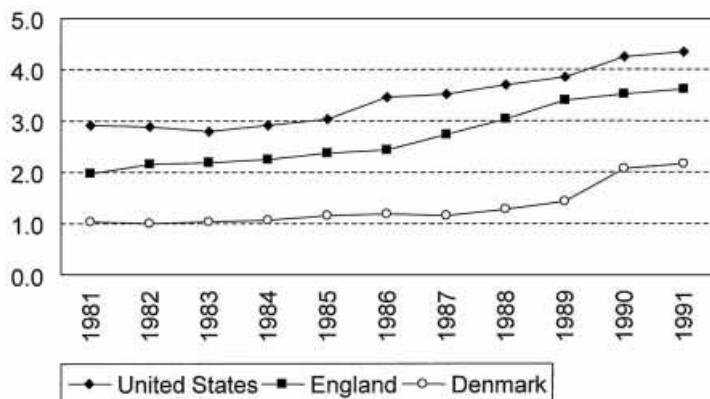


Figure 6.6. Police-recorded assault rate per 1,000 population.

Assault is defined as aggravated assault in the United States, and wounding in England. In Denmark it also includes assault leading to death,¹⁰ slapping and punching, and violence only causing pain (for definitions on assault, see also European Group on Crime Problems, 1999). The Danish definition of assault is thus considerably broader than that in the United States and England. In 1989, the section on assault in the Danish penal code was changed and the area of public prosecution was enlarged, which means that it is very difficult to compare the statistics on assaults before and after this amendment. As seen in Figure 6.6, the amendment seems to have led to quite an increase in the rate of assault, which, despite changing levels, was quite stable both before and after passage of the amendment. Both England and the United States also experienced an increase in their assault rates during the 1980s, but the increase was considerably larger in England than in the United States. Despite the heavy increase in the Danish assault rate it remained considerably lower than that found in England and the United States throughout the study period.

Burglary includes both residential and commercial burglaries in all three countries. Analysis of burglary flips the positions of the three countries, as Denmark has the highest rate of burglary, followed by England, and then by the United States. The high Danish rate may reflect a very large number of commercial burglaries and burglaries in uninhabited places like garages and cellars. When only looking at household burglaries, the United States and England are both among the countries with the highest rates of burglary,

¹⁰ The number of lethal violent acts was, however, rather small – about five cases annually.

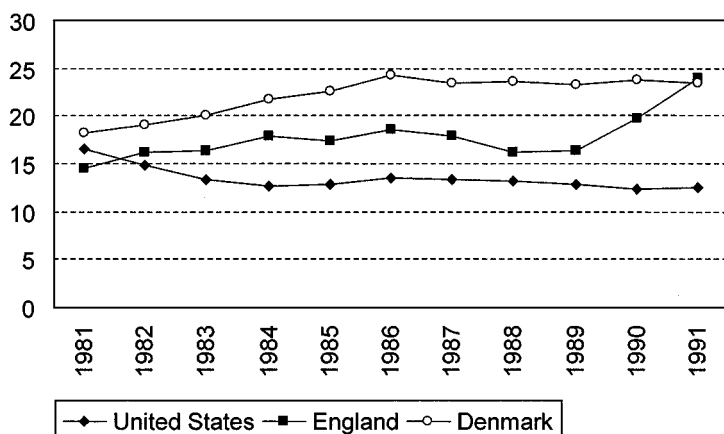


Figure 6.7. Police-recorded burglary rate per 1,000 population.

whereas the Danish rate is relatively average (Kangaspunta, Joutsen, and Ollus, 1998). This discrepancy between the general burglary rate and the household burglary rate may reflect a strong inclination to report offenses to the police in Denmark, as suggested by the latest international victimization study (van Kesteren, Mayhew, and Nieuwbeerta, 2001). Among the total number of burglaries in Denmark, only about one-fourth are household burglaries.¹¹ See Figure 6.7.

In all three countries, motor vehicle theft is defined as including all types of motorized vehicles, and both completed thefts and attempts. This is the offense with the biggest similarity between the three nations. The English rate is, somewhat higher than that in the United States, whereas the Danish rate falls in between. All three countries experienced an increase in the rate of motor vehicle theft during the 1980s. See Figure 6.8.

In general, crimes involving violence (homicide, rape, assault, and robbery) are much less frequent in Denmark than in the United States. When compared to England, Denmark shows no difference in regard to homicide and, with the exception of assault, relatively minor differences in regard to the other types of violent offenses. The two types of property crimes examined – burglary and motor vehicle theft – show considerably fewer differences between the three countries than those in regard to violence. Thus, from the

¹¹ The annual risk of household burglary victimization in 1980 was estimated at 2% for Copenhagen, whereas a U.S. report from 1979 estimates this risk to be 9 to 14% in big cities in the United States (Balvig, 1987).

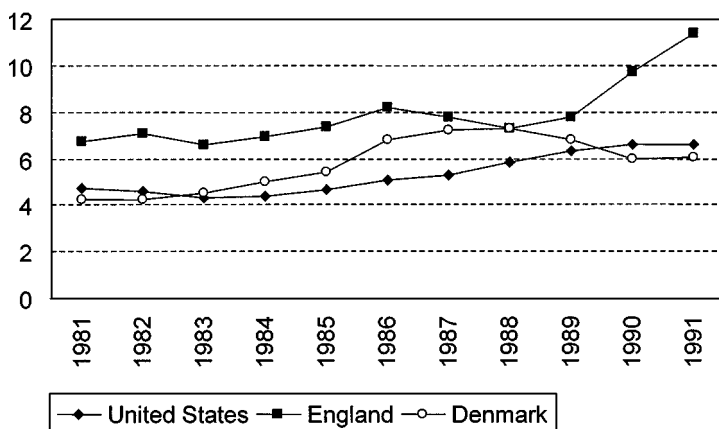


Figure 6.8. Police-recorded motor vehicle theft rate per 1,000 population.

property crime perspective, which dominates the spectrum of Danish penal code offenses, Denmark does not stand out as a country very different from the United States and England, but has a police-recorded rate of property crime rather similar to that found in those two countries.

The Risk of Being Caught and Convicted in a Comparative Perspective

The number of police-recorded crimes sets an upper limit on the number of persons who may be recorded and convicted for a crime and thereby included in this study. It is well known, however, that only a minority of crimes are cleared, and fewer yet result in prosecution or conviction. In Denmark, about one-fifth of all reported penal code offenses are cleared by the police. Property crimes have the lowest clearance rate. Violent crimes have the highest. Furthermore, not all prosecutions lead to a conviction. The conviction rate is particularly low for crimes of a sexual or violent nature, as many cases are dropped due to insufficient evidence.

The conviction rate is a measure of the number of offenders convicted per 1,000 population. From a comparative perspective, the conviction rate is just as important as the rate of police-recorded crimes. It is, however, even more difficult to compare conviction rates across borders than rates of reported crimes, as various unidentified differences in counting, registering, and even defining convictions may exist. For instance, cases involving codefendants,

Table 6.1. *Conviction ratio: The ratio between the crime rate per 1,000 population and the conviction rate per 1,000 population distributed by type of offense*

	United States	England	Denmark
Murder	0.56	0.75	0.35
Rape	0.20	0.21	0.21
Robbery	0.11	0.17	0.33
Assault	0.07	0.40	0.44
Burglary	0.07	0.08	0.06
Motor vehicle theft	0.03	0.08	0.08

or those with multiple offenses per conviction, will affect the results of any comparison.

Despite these problems, a rough comparison of the conviction rates in the United States, England, and Denmark is attempted here. It is based on the Bureau of Justice Statistics report mentioned previously, which includes the rate of conviction per 1,000 population for the offenses examined in Figures 6.3 to 6.8.¹² Looking at the ratio between the rate of police-recorded crimes and the conviction rate in each country it is possible to evaluate whether the risk of being caught and convicted differs by nation. For this calculation, the average crime rate per 1,000 population is compared to the average conviction rates during the period 1981–91. It should be noted that whereas complete data are available for Denmark, conviction rate averages for England and the United States are based on four and five years of data, respectively.¹³ It should also be noted that the conviction rate data for Denmark are per 1,000 population age 15 or older, whereas data from the United States and England are based on rates per 1,000 population age 10 or older.

Table 6.1 reveals that the conviction ratios (ratio between the crime rate and the conviction rate) for rape and burglary are nearly equal in all three countries, and that the ratios provided for assault and motor vehicle theft are the same in England and Denmark. The conviction ratio for robbery is much higher in Denmark than in the United States and England, perhaps because of the rather high priority police attach to this crime in Denmark

¹² For rape it is the number of convictions per 1,000 male population.

¹³ For the United States the conviction rate is known for 1981, 1983, 1986, 1988, and 1990, and for England for 1981, 1983, 1987, and 1991.

(around 50% of robbery cases are cleared). The conviction ratio for murder is considerably lower in Denmark than in the United States or England. This is not due to lower clearance or conviction rates for murder in Denmark, but to the fact that a large proportion of the cases recorded by the police as homicide culminate in convictions for fatal violence. Whether such cases should have been regarded as homicides in the first place is arguable, and points once again to definitional problems that arise in cross-national comparisons.

Table 6.1 suggests that the overall risk of conviction is rather similar in Denmark and England, and that the risk in the United States is relatively close. When attention is focused on property crimes, which represent the overwhelming majority of all penal code offenses, the risk of being caught and convicted is nearly identical in all three countries.

Summary

This chapter begins by providing some general geo-social information on Denmark, as well as a review of trends in Danish crime and criminal policy during the years 1981–93. Following this is a brief overview of law and policy in Denmark, and changes occurring during the research period that may affect the comparability of this study with previous research from other nations.

Fluctuations in the prevalence of offending that occurred during the 1980s will, of course, affect the results of this study to some extent. Fluctuations in prevalence, frequency, or seriousness are, however, common to any long-term study regardless of national context.

Changes in sanctioning policy occurring during the study period should have no significant effect on the study's findings, as measures concerning the types and severity of sanctions were rarely used. One potential exception involves the analyses of the impacts of incarceration, but even here it is rather hard to imagine that the observed policy changes would have any profound impact on the results obtained.

From a comparative methodological perspective, the scope of offenses included in the current study is somewhat broader than that used in much of the previous British and American research on adult criminal careers. The Danish study includes traffic offenses above and beyond drunk driving as well as various special law offenses not normally included in criminal career research. On the other hand, the use of adult registration data restricts the analyses to a more serious level of offending than that generally analyzed in self-report studies of juvenile delinquency. Furthermore, many

of the analyses carried out in the following chapters use category-specific outcome measures, and thereby allow clear insight into the potential effects of including traffic law offenses in the current study.

The breadth of the criminal outcome measure is one thing; cross-national differences in overall offending levels is quite another. Comparisons with the United States and England indicate that these countries have relatively similar rates of reported property crimes, yet there are substantial differences in the levels of violent crime observed, especially between Denmark and the United States. The U.S. rate is much higher.

This difference is somewhat counteracted by the greater probability in Denmark of being caught and convicted for violent offenses. There is little difference concerning the risk of apprehension and conviction for property crimes between the three countries.

There are likely to be enormous differences in sentencing policy between the three nations. However, since the current study primarily concerns offending rates, as opposed to types of dispositions, these differences should have little effect on the research results reported herein. One exception lies in the chapter concerning incarceration.

All in all, the most important methodological concern in terms of the comparability of the current study to previous American and British research lies in the definition of crime used, since the Danish study includes traffic and special law offenses not generally included in prior research. It should be emphasized, however, that the limited comparisons made here do not allow insight into whether this definitional difference is counteracted by other methodological or societal differences. For instance, contrary to U.S. practice, minor possession of soft drugs for personal use almost never leads to prosecution in Denmark.

Although differences in criminal justice policy and study methodology present limitations to comparing the *type* or *amount* of criminal behavior by nation, it is of utmost importance to emphasize that the primary concern of the current study lies not in the absolute magnitude of offending, but in the overall *patterns of the criminal career*. This study focuses on offending patterns as they relate to age, gender, and socioeconomic status, since it is these patterns that may best contribute to our knowledge of the causes and correlates of crime. The exact proportion of Danish offenders who recidivate, or other specifics of that nature, such as the numbers or types of offenses are relatively unimportant to our search for global patterns in criminal careers. What is important are the basic findings on the existence of general patterns in offending that transcend borders – patterns relating to age, gender, social status, and factors significant for participation, recidivism,

and skewness in the distribution of offending. Insights of this sort form the basis for the rather solid assumption that patterns observed in Denmark can contribute to the criminological understanding of crime both within and outside our borders.

The coming chapters reveal that methodological differences regarding the precise definition and measurement of criminal behavior are generally far more important obstacles to comparative research than national differences in rates of crime and conviction. The obstacles to effective comparison lie less in what we know than in what we don't know.

The Criminal Career

Prevalence

PREVALENCE refers to the proportion of the population that commits crime during a given year. In the English-language literature the term “participation” is used synonymously with “prevalence.”

Prevalence studies often begin with comparisons of prevalence across age and gender. Yet, in spite of general agreement about the method for prevalence measurement, great difficulties arise in comparing results from different studies. Prevalence rates are calculated by dividing the number of criminally active offenders by the total number of inhabitants. In this fraction, the value of the denominator – the population unit – causes few problems. However, the numerator – the criminally active part of the population – is fraught with measurement error since study methods, boundaries, and definitions can vary considerably. This makes it almost impossible to compare results across studies, especially those between different countries.

The magnitude of the prevalence rate depends first and foremost on whether the information defining the “criminally active” stems from studies of self-reported criminality or from studies of registered crime. Self-report studies will generate prevalence rates several times greater than those of registered crime.

Cross-national differences will remain within both self-report and register-based studies and will affect the results. This is due to differences in how crime is defined. What does it mean to be “criminally active”? Does it include all types of offenses or only violations of the penal code? In register-based studies, “crime” can be defined quite differently across jurisdictions. Clearly, the more broadly “crime” is defined, the greater the apparent prevalence will be.

Prevalence in the younger age groups is particularly sensitive to minute variations in measurement strategies. Measurements may be taken at the time of the offense, at the time the crime is solved, or at the time of the applied sanction. Even minor differences in measurement timing can become important, since great variations in crime prevalence occur across small age differences among youth.

To be able to compare the results of different prevalence studies it is necessary that each study explicitly describe the methods, boundaries, and definitions used. Since this is hardly ever the case, the results of other studies cited in the remainder of this chapter can only rarely be used for direct comparisons. They can, however, give a picture of what can be arrived at by using other boundaries and definitions, and thus give a certain framework for interpretation of the results of this study.

Prevalence and Age

It is an indisputable fact that prevalence varies with age. All studies agree that prevalence is highest among the young and lowest among the elder citizens of any society.

In Denmark, rather than actually measuring prevalence at different ages, estimates have been arrived at using information from the crime statistics register. The main element in Danish crime statistics is the *criminal legal disposition*. If an individual has several dispositions in a single year, he or she will be included in the statistics several times. Hurwitz and Christiansen write that the number of convicted individuals must be assumed to be at least 10% lower than the number of dispositions, which means that the crime prevalence must be at least 10% lower than the sanction disposition prevalence (Hurwitz and Christiansen, 1983). Based on this they make estimates of the age-specific prevalence of those who have been sentenced to a penalty greater than a fine. They show that in the years 1937, 1949, 1951, 1953, and 1955, the 18- to 20-year-age group had the highest prevalence. Still, even in this age group less than 1% were sentenced to a penalty greater than a fine (Christiansen, 1964). In a later study (Christiansen and Jensen, 1972), information from 1968 is also included. By that time, the prevalence among the 18- to 20-year-olds had risen 100% from its 1937 level.¹

Later calculations based on information from the Danish crime register show that 18-year-olds had the highest sanction prevalence (for penal code violations) in 1970 (290). Currently 19-year-olds receive the most

¹ Farrington, Lambert, and West (1998) have also found large differences between generations in cumulative prevalence.

dispositions. The disposition prevalence for 19-year-olds was just over 3% in 1990 (Kyvsgaard, 1992a).

Studies of self-reported criminality not only result in a considerably higher prevalence; they also suggest an earlier peak age of offending. A Danish self-report study of 7th to 9th grade children suggests that the prevalence of criminality peaks as early as age 14. Almost half of the 14-year-olds analyzed offended during the 12 months prior to the study (Kyvsgaard, 1992, pp. 76 ff.). That self-report studies exhibit an earlier peak age for prevalence reflects the fact that these studies capture more trivial types of crime, which are common among the very young. Crime serious enough to be reported and investigated does not peak until higher age levels. Similar differences in age-specific prevalence are shown in American studies based on self-report and registry methods (Blumstein, Cohen, Roth, and Visser, 1986).

Project Metropolitan, a Swedish registry study based on a 1953 Stockholm birth cohort, shows an earlier age of peak prevalence than the Danish criminal statistics. It suggests that 17-year-olds have the highest prevalence, and that the prevalence for 13- to 16-year-olds and for 18-year-olds is only somewhat lower than that of the peak at 17 (Wikström, 1990; Wikström, 1985). Farrington's Cambridge study has yielded a similar result (Farrington, 1992a; Farrington, Lambert, and West, 1998).

Based on data from the current study, Figure 7.1 shows the age of the offender at the time of the crime. The upper curve indicates prevalence for

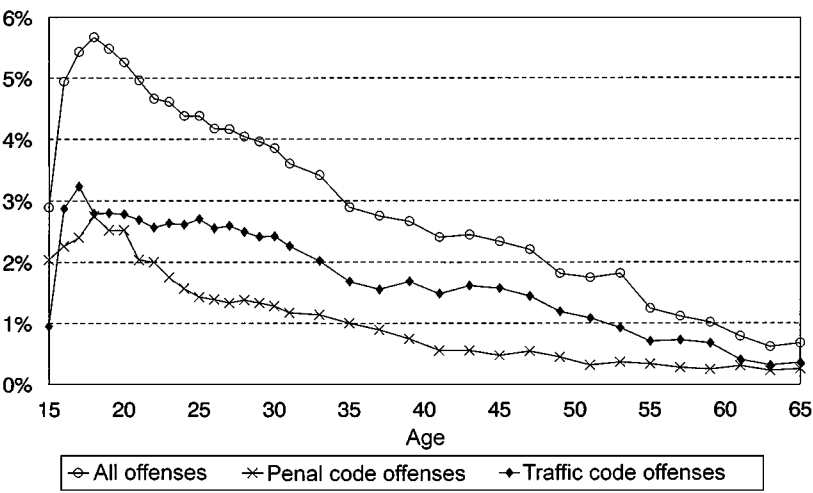


Figure 7.1. Age-specific prevalence rates in 1990, by type of crime. The prevalence at the different age levels over 20 years is calculated as an average of three successive age levels.

all offenses, and suggests a peak among 18-year-olds. In 1990, almost 6% of all 18-year-olds in Denmark committed an offense which led to a criminal legal disposition. With increasing age, prevalence decreases relatively evenly and constantly. Nearly 4% of 30-year-olds committed an offense in 1990. For the 40-year-olds the figure is 2.5% and for the 50-year-olds, 2%. Among those over 60, less than 1% were registered for an offense.

Figure 7.1 deviates slightly from the picture given by the crime statistics which, as mentioned, indicate a peak at the age of 19. The difference is probably due to the fact that Danish crime statistics are based on age at disposition, which occurs on average more than 6 months after the time of the crime.

Figure 7.1 also illustrates a steep increase in prevalence during the first few years following the age of criminal responsibility. Much of the discussion surrounding the lowering of the age of criminal responsibility is based on the assumption that the threat of sanction reduces criminal activity. This notion is not immediately supported by Figure 7.1, since prevalence increases just as the risk for both being sanctioned and more severe sanctions increases.

Figure 7.1 disaggregates prevalence rates for penal code and traffic code violations.² Traffic code violations are most common among 17-year-olds: Just over 3% of them are registered for such offenses. The Danish minimum age requirement of 18 for acquiring a driver's license has undoubtedly influenced this peak. Prevalence rates for traffic code violations remain generally stable, through age 30, and decrease steadily and consistently thereafter. Prevalence rates do not fall below 1% until after age 50.

Among the very young there are almost as many penal code violators as there are traffic code violators. In 1990, penal code violations peaked for 18-year-olds, of whom almost 3% were registered. After the age of 20, penal code violations decreased relatively quickly, declining to half-peak by age 25. Unlike their younger counterparts, middle-aged and older adults were much less likely to violate the penal code than the traffic code.

The Cumulative Prevalence

Prevalence refers to the number of active offenders *in any given year*; cumulative prevalence concerns *the fraction of the population who in their lifetime*

² The category "all offenses" includes not only penal and traffic code violations, but also violations of other "special codes." The prevalence for violations of special codes is not separately indicated partly because of its low frequency (only 10% of "all offenses") and partly because the category includes such a broad spectrum of offenses that it seems meaningless to present a common prevalence. It should be noted that the sum of prevalence for penal and traffic code violations exceeds the prevalence of "all offenses." This reflects the fact that the same individual can be registered for violating both the penal and the traffic code.

or until a certain age are registered for crime. The cumulative prevalence can therefore tell us what proportion of the population has ever been in contact with the legal system.

This question is at least as important as the question of single-year crime prevalence. Two studies based on data from Project Metropolitan-Stockholm provide rates of cumulative prevalence for both sexes at ages 25 and 26 and age 30. At 25 and 26, 19% are registered for crime (Wikström, 1990). By this time, most of those who will ever offend have apparently done so already since the cumulative prevalence at age 30 has risen to only 20% (Andersson, 1991).³

An English study of a 1942 birth cohort from the Metropolitan Police District of London shows that 10% of the cohort were arrested for penal code and/or serious traffic code violations by the age of 20 (Little, 1965).

Some of the American studies point to a cumulative prevalence closer to that of the Swedish. A study based on a 1956 California birth cohort shows that 24% of the subjects had been arrested in the period between their 18th and 29th birthdays (Tillman, 1987). Other American studies, however, suggest a considerably higher prevalence. The 1942 and 1949 birth cohorts of the Racine study show that almost 70% of the subjects had been in contact with the police by September 1976 (that is, at the ages of 34 and 27 years, respectively) (Shannon, 1988). These very high numbers can presumably be explained by the measure of crime used: police contact. This indicator is often used in American studies despite the fact that only a fraction of police contacts result in charges being filed or subjects convicted. Furthermore, like many of the other American studies, juvenile delinquency was included in the cumulative prevalence statistic. Thus it included status offenses (behaviors considered law violations only due to the young age of the individual) and other minor offenses.

The present study measures the cumulative prevalence up to and including age 26. The measurement is based on the aforementioned "onset sample" (that is, those who were 14 or 15 years old in 1979 and whose criminal careers can be followed through age 26).

Almost 28% of those born in 1964–5 were registered for violating the penal, traffic, or special codes before they turned 27 years old. This number is high compared to the results from Project Metropolitan-Stockholm, partially because the Danish sample includes a broader spectrum of offenses. As

³ It is, however, unclear whether measurements in both periods were conducted in the same way. Wikström indicates that his measurement includes all charges except charges for traffic code violations. Andersson indicates that his data concern definite and suspended sentences as well as other types of sanctions, whereas "*ordningsböter*" (certain minor fines) are not included in the study (Andersson 1991, p. 46).

Table 7.1. *Age-specific cumulative prevalence, by type of crime*

Age	All Offenses, Percent	Penal Law Offenses, Percent
15	4.8	2.1
16	10.0	3.5
17	14.0	4.5
18	16.6	5.5
19	18.4	6.3
20	20.2	6.9
21	21.8	7.5
22	23.5	8.0
23	24.8	8.3
24	25.9	8.6
25	27.0	8.8
26	27.8	9.0

Table 7.1 shows, significantly fewer are registered for penal code violations: 9% before the 27th year.

Cumulative prevalence increases most rapidly among the young (first-time offending is most common in youth). Half of those who commit their first offense before age 27 did so before they turned 18. This is true for all offenses as well as penal code violations. First-time offending decreases quickly and significantly with increasing age. Very few begin a criminal career within the later years of the included data.

If the decrease in the growth in cumulative prevalence continues at the same speed after age 27 as it has in the years before, it can be estimated, based on the 1964/1965 cohort, that *one-third to 40% of the population will be registered as having committed offenses on one or more occasions during their lifetime. A tenth of the population will be registered as having committed a penal code violation at some time in their lives.*

Prevalence and Gender

Studies on prevalence and gender go beyond the well-known fact of the difference in magnitude of crime among males and females. They focus on differences in peak age and in patterns of the age curve for males and females. Many studies are restricted to male subjects however, since female crime rates are so much lower and huge study samples would be required to

enable clear patterns in female offending. In particular, longitudinal studies based on high cost interviews will often concern males exclusively.

Among the studies focusing on male prevalence is Project Metropolitan-Stockholm. Although it includes both males and females, it reports gender-specific prevalence rates for males only (age 17 with a prevalence of 8%) (Wikström, 1985). Farrington's Cambridge Study, based on working class boys from London, also finds that the prevalence is highest among 17-year-olds: 11.2% of males of that age are registered for crime. However, the difference between the prevalence rates for 17-year-olds and the surrounding age categories seem to be greater in the English than in the Swedish study (Farrington and Wikström, 1992). An examination of the official criminal records of the parents and siblings of Farrington's Cambridge Study cohort reveals that prevalence for the older, male generation peaked approximately 5 years higher, that is, at 22 years, than for the focal subjects themselves (Farrington, Lambert, and West, 1998).

Farrington's data also include females and reveal that although peak age of prevalence for the young generation of females is only slightly higher than that of their male counterparts, peak age of prevalence among older generation females was considerably higher than that for older generation males. Studies based on English criminal statistics on indictable offenses from 1984 suggest an earlier peak in prevalence for both males and females and a lower peak age for women (Farrington, 1986). Of the 15-year-old boys, 8.3% were registered for crime in 1983, whereas female crime peaked at the age of 14 years with a prevalence of 2%.

Similar patterns are shown in other studies. Studies concerning Index offenses in the United States in 1982 suggest that male rates of nonviolent crime peak at age 17 with a prevalence of 6.5%. Violent crime peaks one year later at the age of 18 when 1.3% of the men are registered for violence. Female prevalence peaks among 16-year-olds: 1.5% of them are registered for nonviolent crimes. Very few women commit violent crimes. The highest age-specific prevalence rate is found at age 20, at which time 0.1% are registered for violence (Farrington, 1986).

Despite the fact that the present study is based on one-fifteenth of the Danish population, the measurement of female prevalence is still based on rather low numbers. The total number of criminally active women per year in the different age groups varies between 10 and 40. To prevent the strong fluctuations that variations in these small numbers can cause, prevalence after age 15 is calculated as an average of three successive age levels. See Figure 7.2.

Male prevalence peaks at age 17, which corresponds to what some of the aforementioned studies have found. In 1990, almost one in ten 17-year-old

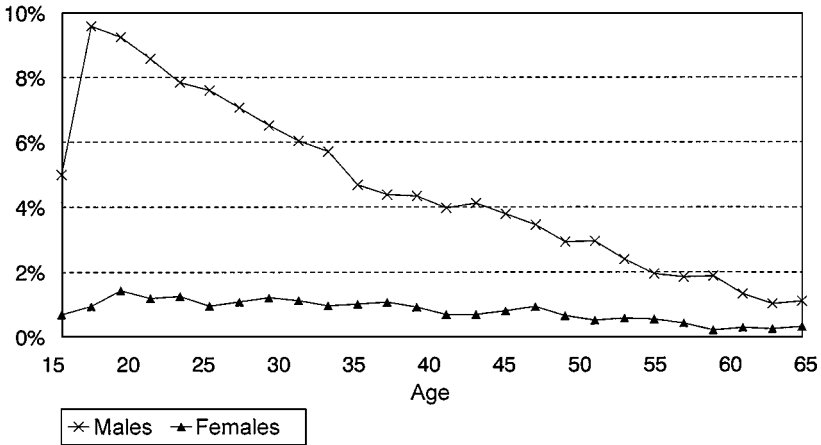


Figure 7.2. Age-specific prevalence rates in 1990, by gender.

boys was registered for an offense. This number is relatively high compared with other studies, probably because this study includes a wider range of offenses.

After the peak at age 17, the prevalence for men decreases rather sharply and is cut in half by the mid-30s. Men in their early 50s have a prevalence that is approximately one-fourth of the prevalence at age 17. Less than 1% of men in their mid-60s are registered for an offense.

Female crime prevalence deviates considerably from that of males, particularly in magnitude. At no time and in no age group during the study did the women's prevalence rate rise above 2%. Less frequently cited, but just as striking, is the flatter nature of the female as opposed to the male curve.⁴ Younger females commit higher rates of crime than older ones, but there is no obvious peak as there is for men. Women's prevalence decreases much more slowly with age than that of males. The largest male-female differences in crime participation thus exist in the younger age groups, while crime prevalence of both genders converges with increasing age.

Male and female participation rates vary not just with age but also by type of crime. Among women, violations of the penal code occur more frequently than violations of the traffic code, whereas the opposite is true for men. A large percentage of male traffic offenders are young, whereas there are relatively few youthful female traffic offenders. The difference between the number of young men and women who violate the traffic code is very big:

⁴Farrington, Lambert, and West (1998) also find that the age-crime curve is not skewed for women as it is for men.

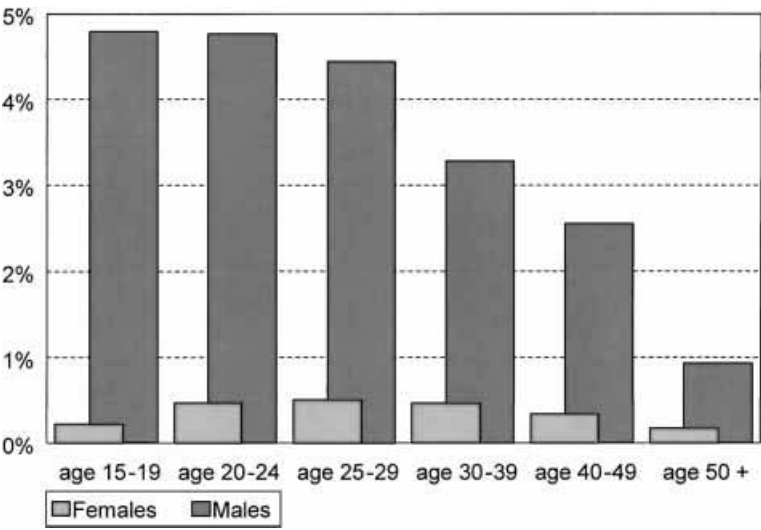


Figure 7.3. Age-specific traffic offending in 1990, by gender.

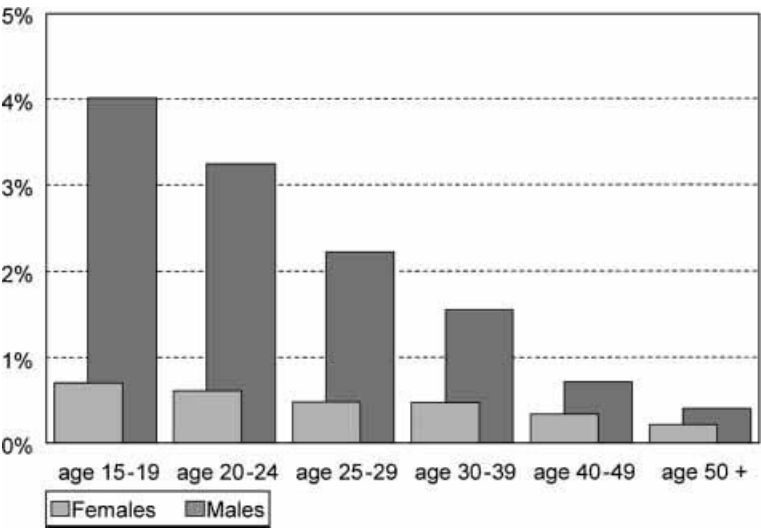


Figure 7.4. Age-specific penal code offending in 1990, by gender.

there were 30 times more male than female traffic code violators in the age group 15 to 19 years. Among middle-aged traffic code violators the difference is reduced to 1:10, as shown in Figure 7.3.

As shown in Figure 7.4, gender differences in the area of the penal code are considerably smaller. The age distribution is similar across gender,

although penal code crime decreases more rapidly with age for men than for women. In youth, the ratio of male to female penal code offending is 7:1. Among older offenders the ratio drops to 2:1.

Cumulative Prevalence among Men and Women

Studies of cumulative prevalence generally start by looking at male-female differences. Much of the data in this area are based on registered crime.

This is so for early Danish studies. One of these, based on crime statistics from the 1940s and '50s, shows that approximately 10% of all men before their 70th year will be sentenced to a penalty higher than a fine for a violation of the penal code. The corresponding number for women is 1 to 2% (Hurwitz and Christiansen, 1983). A later study, based on information from 1968, finds that 12% of the men and up to 2% of the women will in their lifetime be sentenced to a higher penalty than a fine for a violation of the penal code (Christiansen and Jensen, 1972).

Danish adoption data, primarily used in the field of genetics, have also been used in criminological research. A sample of 662 adopted male children born between 1927–41 shows that 16% were convicted before reaching the age of 30 to 44 years in 1971 (see Visser and Roth, 1986, pp. 233–5).

Project Metropolitan-Copenhagen, the Danish counterpart to the Swedish study, shows that 35% of the boys born in Copenhagen in 1953 were registered for an offense by the age of 23; 20% were registered for a violation of the penal code (Høgh and Wolf, 1983; Ortmann, 1981; Wolf, 1984). Project Metropolitan-Stockholm shows a cumulative prevalence of approximately the same order (31% of the boys from Stockholm were registered by the police before they turned 26 years old) (Wikström, 1985).

Three English longitudinal studies, including Farrington's Cambridge Study, a second from Newcastle, and a third on the country as a whole, show approximately the same results. The cumulative prevalence until just over the age of 30 varies from 30% to 35% for males (Farrington, 1992a).

A study of individuals born in California in 1956 shows a similar cumulative prevalence for the men: 35% arrested in the period from their 18th to 29th year. For the women the cumulative arrest prevalence was 12% (Tillman, 1987). Wolfgang's first Philadelphia study, of boys born in 1945, shows on the other hand that 35% had been in contact with the police by the age of 18 (Wolfgang, Figlio, and Sellin, 1972). The second Philadelphia study, which includes both men and women, shows a similar result for males. Among the females, 14% had been in contact with the police by the age of 18 (according to Visser, 1986). These higher rates of cumulative prevalence

Table 7.2. *Age-specific cumulative prevalence, by gender and type of offense^a*

Age	All Offenses, Percent		Penal Law Offenses, Percent	
	Males	Females	Males	Females
15	8.0	0.8	3.4	0.7
16	17.9	1.3	5.6	1.1
17	24.8	2.1	7.1	1.7
18	28.4	3.3	8.2	2.5
19	31.5	3.9	9.3	2.9
20	34.5	4.8	10.1	3.3
21	36.5	5.7	10.9	3.8
22	38.8	6.5	11.4	4.1
23	40.7	7.2	11.8	4.4
24	42.4	7.7	12.2	4.5
25	43.9	8.3	12.6	4.7
26	45.2	8.6	12.8	4.8

^a Like Table 7.1, Table 7.2 is based on the first-time offender “onset sample.”

reflect, in part, the more sensitive measure of criminal activity used: police contacts as opposed to arrests.

Studies of male and female cumulative prevalence almost always show a lower rate for women than men. However, the ratio differences vary considerably between studies: from 1:2 to 1:7 (see the review in Visser and Roth, 1986).

Table 7.2 shows that 45% of the men in this study are listed in the crime register by the age of 26 years; 39% were already registered by the age of 22, a somewhat greater number than the Project Metropolitan-Copenhagen study found (35%).

Based on trends in the number of first-time offenders it is estimated that *more than half of all men born in 1964–5 will be listed in the criminal register for some type of offense in their lifetime.*⁵

As demonstrated in Table 7.2, the magnitude of female offending is lower than for males in the current sample. Furthermore, female patterns of first-time offending deviate substantially from those of males in that their rates of offending are less affected by age. There is a gender ratio of 1:10 in cumulative prevalence during youth, but this difference is later cut by half to

⁵ This number may actually rise as high as 60%.

approximately 1:5. From the trends charted in Table 7.2, it can be estimated that *just over one-tenth of all women will be registered for an offense in their lifetime.*

The last two columns in Table 7.2 show the cumulative prevalence for penal code violations only. The prevalence of these offenses is considerably lower than that of the total number of offenses, especially for males. Just over 25% of males who are registered for crime have committed a violation of the penal code. Among females, it is more than half. If the increase in new penal code violators continues at the rate indicated by the table, it can be estimated that *at least 1/7 of the men and 1/20 of the women will be registered for a penal code violation in their lifetimes.*

Table 7.2 shows that just over 11% of the young men are registered for a penal code violation before they turn age 23. This is much higher than the percentage found in the Project Metropolitan-Copenhagen study, which showed that 20% of the males born in 1953 were registered for a penal code violation by the age of 22.

The difference in prevalence rates between these two studies may be explained to some degree by sample characteristics. Whereas the present study uses a nationwide sample, Project Metropolitan was based on a sample from Copenhagen, a city that has always had a higher crime rate than much of the rest of the country. Factors associated with the data cleaning process may also have amplified the difference, as not all dispositions are included in this study. Nonetheless, methodological factors cannot explain all. Some of the difference presumably reflects real differences that existed in the inclination of youths to commit penal code violations during the two study periods. The Project Metropolitan study concerns a period when youth crime increased: 1968–72. As discussed later in this chapter, the prevalence of youth crime has decreased during the 1980s, but the overall number of youth crimes committed is very similar to that of the late 1960s. Although data appropriate for testing this hypothesis is lacking,⁶ such facts suggest that the earlier period was characterized by a lower individual crime frequency (λ) than the later. λ s from the current sample are further analyzed in Chapter 8.

Measures of prevalence in the current study cannot be compared with earlier estimates based on Danish crime statistics since these include all offenses punished with a penalty higher than a fine. These latter measures have not been applied to the current study data, since changes in the Danish sanctioning system over time have rendered any such comparisons invalid.

⁶ Given the lack of electronic data prior to 1979, it is not possible to perform an exact comparison of the number of offenses committed before and after that year.

Prevalence and Socioeconomic Conditions

The relation between age, gender, and prevalence is undisputed, but evidence regarding the relation between social class and crime is mixed.

Studies based on self-reported criminality typically do not show a relation between social class and crime, whereas studies based on registered crime generally do (Visser and Roth, 1986, pp. 255 ff.; Nagin and Smith, 1990).

Like research from other parts of the world, the Danish studies of self-reported criminality show no relation between participation in crime and the social status of the subject's parents (Kvysgaard, 1992a; Balvig, 1982; Greve, 1972; Skogen and Wichström, 1995; Junger-Tas, Terlouw, and Klein, 1994).⁷

Studies concerning registered crime, however, suggest that offenders are heavily concentrated in the lower socioeconomic stratum. This is demonstrated in both older and newer Danish studies. One such study, based on crime information from the early 1950s, shows considerable variance in the prevalence of sanctions in the different social classes (Wolf and Høgh, 1966). Project Metropolitan-Copenhagen suggests a very clear relation between youthful offending and the father's social status. Compared to young people from homes with highly educated or socially prominent fathers, those whose fathers are unskilled workers have twice the number of registrations for violations of the penal code (Høgh and Wolf, 1983). Similar results are found in a longitudinal study of children born in a hospital in Copenhagen in 1959 (Mednick, Baker, and Carothers, 1990). A 1983 study of registered offenders demonstrates their relative lack of education, employment, and financial well-being as compared to the Danish population in general (Kvysgaard, 1989b).

English studies also show a strong relation between social class and convictions (Visser and Roth, 1986). American studies, on the other hand, are weaker in their conclusions, and not all show such a relation. It has been suggested that this may be because no recent studies have been based on a sample of sufficient size (*ibid.*).

In the present study the relationship between social class and crime is examined through analyses of subjects' connection to and position on the labor market. Figure 7.5 charts the relation between crime prevalence and circumstances of employment for 25- to 29-year-olds. The skewed age distribution among offenders prevents a comparison with the population in general, since job frequency and structure vary with age. Furthermore,

⁷ Some studies have shown a clear relation between social class and *the extent and severity of crime* (Balvig, 1982).

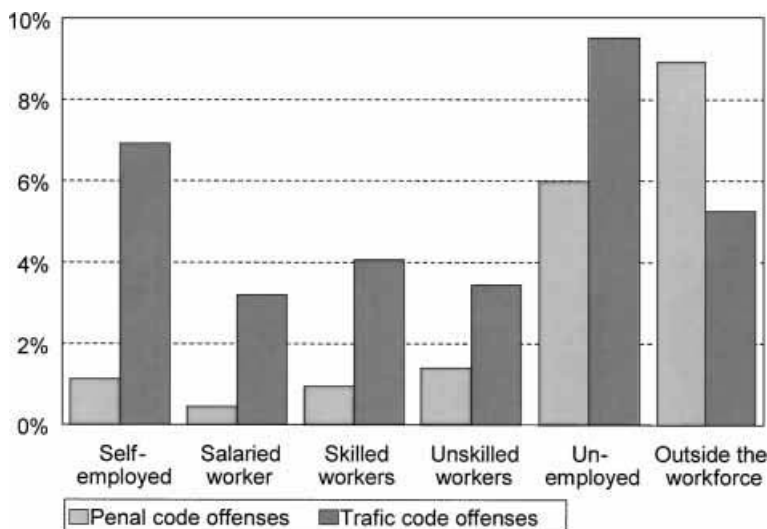


Figure 7.5. The prevalence of offending among 25- to 29-year-old males, by employment position and type of crime.

Figure 7.5 includes only male offenders. Female crime prevalence is generally very low, and when it is disaggregated by employment status, and thus further decimated, it becomes difficult to evaluate by graphic presentation. There is, however, no sign that the connection to the job market for male and female offenders varies in any significant way.

Almost 5% of 25- to 29-year-old males are registered for a violation of the traffic code. Figure 7.5 shows that, in comparison, traffic code violators are underrepresented among salaried workers, as well as skilled and unskilled workers, while they are overrepresented among the self-employed and the unemployed. The high prevalence of traffic violations among the self-employed can be explained by that group's relatively higher mobility which increases the possibility and probability for a traffic code violation. However, the same argument can hardly explain why the unemployed have almost twice as many traffic code violations than chance alone would dictate.

Almost 2.5% of the 25- to 29-year-old men are registered for a penal code violation. Among the employed, however, the number is only approximately 1%. Salaried workers are particularly underrepresented among penal code violators. The unemployed and other individuals not belonging to the workforce are, on the other hand, strongly overrepresented. Six percent of the unemployed are registered for a penal code violation, as are 9% of those who do not belong to the workforce. The latter category includes early retirees, students, homemakers, and others with no registered income from

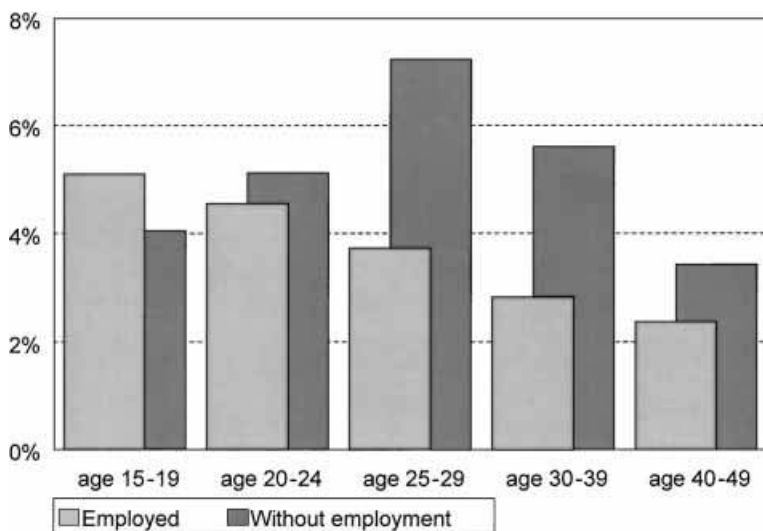


Figure 7.6. Age-specific prevalence of male traffic offending, by employment status.

employment. It can also include individuals who in principle are seeking employment, but who – because of extended unemployment, loss of work ability, or similar conditions – are not registered as unemployed. Another study shows that this is exactly the situation of many of the offenders who do not belong to the workforce. Such offenders typically receive extended social welfare without being registered as unemployed (Kylvsgaard, 1989).

Figures 7.6 and 7.7 show employment status in relation to age for traffic and penal code violators, respectively.⁸ The category “Without employment” includes those who are registered as unemployed and those who do not belong to the workforce. Both figures show that the number of offenders, among those who are employed, decreases with age. There are thus, especially among the older offenders, relatively few who have a job. It further appears that the difference in offending prevalence between those who are employed and those who are not increases with age.

This difference is especially pronounced for the penal code offenders. At all age levels the prevalence for those who are employed is significantly lower than for those who are unemployed. The difference in prevalence is approximately 1:2 for the 15- to 19-year-olds, after which it steadily increases to 1:13 for the 30- to 39-year-olds. Figure 7.7 thus shows that whereas age is associated with less and less crime among the employed, there is – until the

⁸ Individuals age 50 and older are not included in these figures since their low crime prevalence and high rate of “retiree” status complicates comparisons.

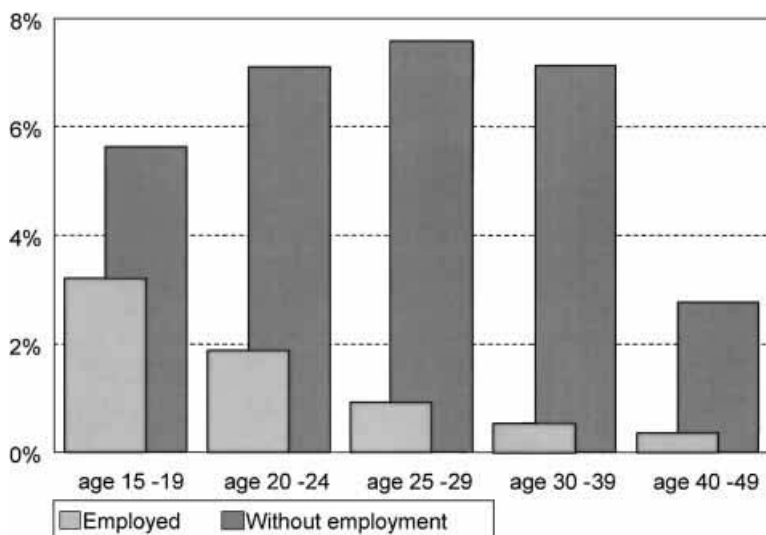


Figure 7.7. Age-specific prevalence of male penal code offending, by employment status.

age of 40 – more and more crime among the unemployed. The age curves shown in Figures 7.1 and 7.2, assumed to be generally valid, are thus *invalid* for that part of the population which is unemployed.⁹

The relation between employment status and crime is thus quite strong in the penal code area and somewhat less but still prominent in the traffic code area.¹⁰

Changes in the Prevalence of the Age Groups in the 1980s

A significant change in Danish crime trends was observed in the 1980s. The 1960s and '70s were characterized by a strong growth in youth crime and a small growth in adult and elders' crime, but the opposite happened in the 1980s. A great increase in crime by the oldest age group has occurred since the beginning of the 1980s, while youth crime has been stagnating or decreasing, as shown in Figure 7.8 (Balvig, 1989; Kyvsgaard, 1992a).

⁹ The relationship between age and crime among the unemployed is largely overshadowed in Figures 7.1 and 7.2, which are based on the total population (of which the majority are employed).

¹⁰ It is important to be aware of the difficulty that exists in evaluating the socioeconomic conditions for the very young, since a large proportion of those youths lacking jobs are not unemployed, but are students. However, as shown in an earlier study, this is less often the case for young offenders than for youths in general (Kyvsgaard 1989, p. 59).

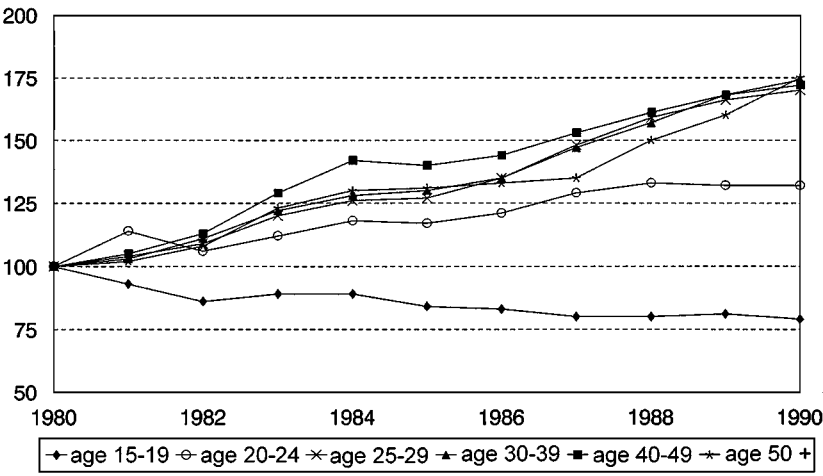


Figure 7.8. Age-specific trends in criminal legal dispositions per 100,000 sample members, 1980–90. Index (1980 = 100).

Decreasing crime rates can be caused either by fewer people committing crime, or by those who commit crimes committing fewer of them. Likewise, increasing crime can be caused by either more people becoming criminally active, or by an increase in the activity levels of active individuals. The overall volume of crime is therefore a function of prevalence and frequency. This section examines to what extent changes in prevalence have contributed to this general change in the age distribution of crime.

Figure 7.9 shows that the prevalence of youth crime decreased from just over 6% to almost 5% between 1980 and 1990 (a decrease in the number of criminally active youths of about one-fourth). At the same time, the prevalence for those over age 50 almost doubled, and increased by more than 50% for the 30- to 49-year-olds.

These changes correspond exactly with those reported in the criminal statistics (that is, that changes in age-specific crime rates are primarily driven by *participation* in crime by fewer young people and more old people).

Changes in Male and Female Crime Prevalence in the 1980s

Since crime is largely dominated by men, Figure 7.9 primarily reflects changes in male crime prevalence. The *level* of male crime is, however, approximately twice that shown in Figure 7.9, as compared with Figure 7.10.

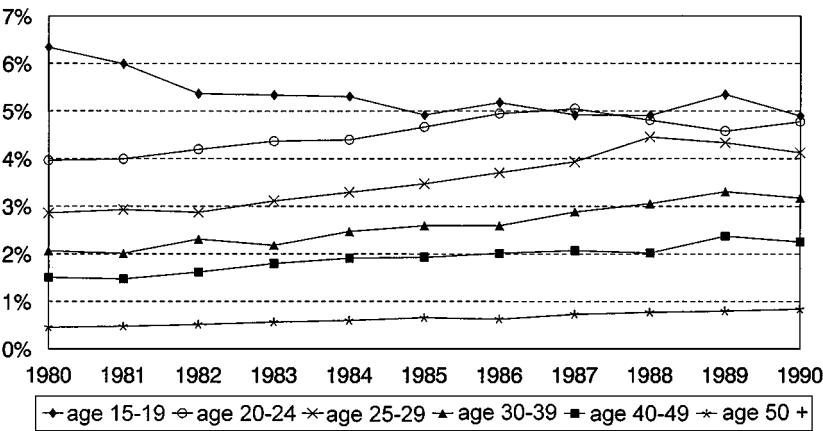


Figure 7.9. Age-specific prevalence of offending, 1980–90.

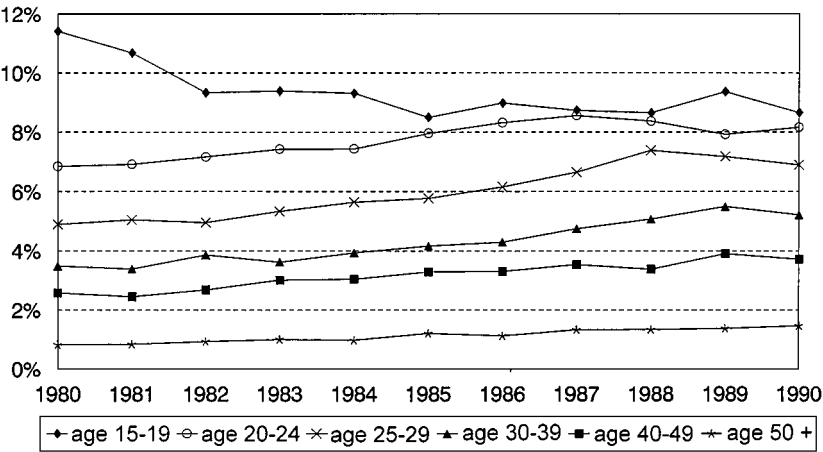


Figure 7.10. Age-specific prevalence of male offending, 1980–90.

Figure 7.10 clearly illustrates that the changes in male offending prevalence during the 1980s have resulted in a considerable decrease in the difference between the age groups. The trend is toward convergence.

Figure 7.11 shows that female offending prevalence has not changed in the same manner. The end of the study period exhibits a slight decrease in the prevalence of offending among young women, but the overall trend during the 1980s is one of increasing participation. This means that there is an increase in female offending for all age groups in the 1980s, though that increase is greatest among older women.

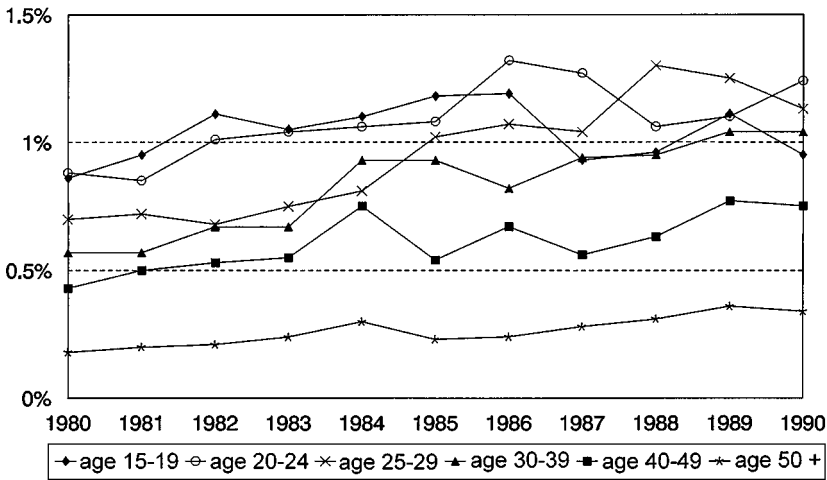


Figure 7.11. Age-specific prevalence of female offending, 1980–90.

The decrease that has occurred in offending by youths is therefore caused solely by the males. On the other hand, increases in prevalence among the older age groups is the same for both genders, and is caused by increased offending on the part of both males and females.

Changes in Offenders' Employment Conditions during the 1980s

Thus far, it is unclear whether the age-specific trends illustrated in Figure 7.8 would remain uniform or differ significantly if they were to be disaggregated by employment status. This issue can be examined separately for traffic and penal code violators.

Figure 7.12 shows that the prevalence of traffic code offending among the employed and those not in the workforce is relatively constant in the 1980s. Between 3 and 4% of the individuals in these two groups are registered as violators of the traffic code at any given time, with greater variation in the number of unemployed. This variation largely reflects fluctuations during the 1980s in the national unemployment rate, rather than variations in the rate of traffic offending by the unemployed.

The unemployed also exhibit significant fluctuations in the prevalence of penal code offending during the study period. (See Figure 7.13.) As with traffic violations, this is more the result of changes in the rate of unemployment than of changes in crime. For instance, between 1985 and 1987 there

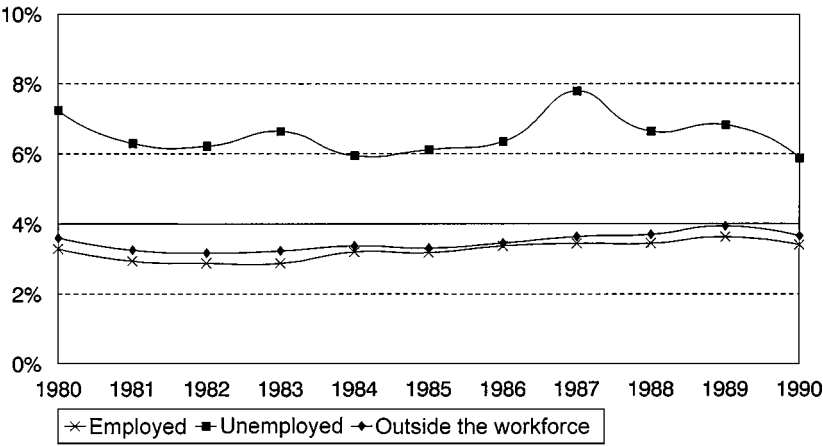


Figure 7.12. Prevalence of traffic offending among 15- to 49-year-olds, by employment status, 1980–90.

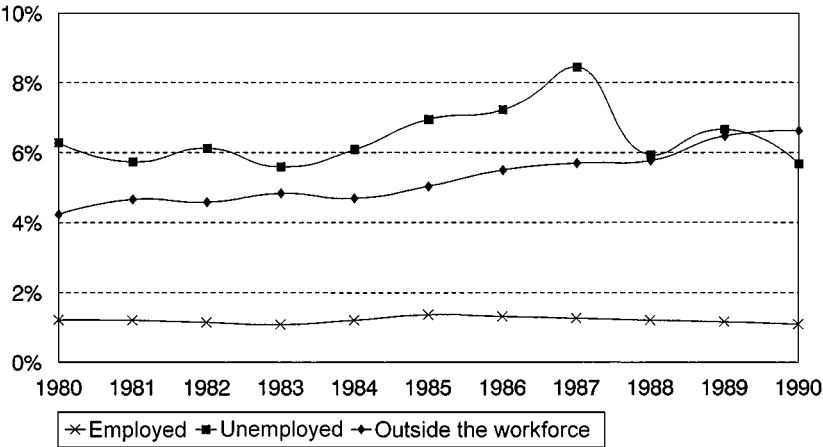


Figure 7.13. Prevalence of penal code offending among 15- to 49-year-olds, by employment status, 1980–90.

were fewer unemployed persons in the population. An unchanged number of unemployed offenders thus resulted in a higher prevalence rate.

Apart from a slight decrease after 1985, the prevalence of penal code offending by the employed remained relatively constant during the study period. The same is not the case for those who were entirely out of the workforce. The crime prevalence for this group increases steadily throughout

the study period from just over 4% to almost 7% despite the fact that the absolute number of persons “outside the work force” remained unchanged. This means that there are both relatively and absolutely a lot more penal code violators who are outside the workforce. The increase in crime prevalence for this group is 56%. It can therefore be concluded that the increase in the number of penal code violators in the population was entirely due to increases in criminal participation by those not belonging to the workforce.

Summary

Two-and-a-half percent of the Danish population over the age of 15 (the minimum age of criminal responsibility) are registered for an offense within any given year. This number represents the prevalence of offending in the population. The corresponding number for penal code violations alone is 1%.

The well-known age-crime curve, peaking during adolescence and declining thereafter, is clearly visible in the current Danish study. This general pattern seems relatively standard across western societies during the last half century. Nonetheless, the current study also demonstrates that the age-crime curve should not be deemed invariant. Changes in demography, as well as intergenerational differences in criminal propensity, affect specific aspects of the age-crime curve, for instance, peak age of prevalence or the rate of onset and desistance. The age-crime curve is also affected by national differences in law and criminal justice policy in regard to the criminalization of young peoples’ behavior through special juvenile delinquency legislation, the minimum age of criminal responsibility, and the general definition of crime. Age-crime patterns are further affected by the types of offenses analyzed, as the correlation between age and crime is much stronger for penal code offenses than for traffic violations.

Lifetime prevalence, or the proportion of a sample committing any offenses during their lifetime, is also clearly affected by the definition of criminality used and other aspects of the study, which make comparisons difficult. Studies of self-reported crime and delinquency can find prevalence rates quite close to 100%, whereas official record studies of arrests for serious crimes may yield very low lifetime prevalence statistics. Such is the case in the current study. Although lifetime prevalence for registration for any offense is estimated at 33%, the same statistic for penal code offenses is only around 10%.

Unlike many studies of prevalence, the current study includes women. Apart from replicating-gender differences in the magnitude of prevalence,

the study also demonstrates that the familiar age-crime curve is actually only applicable to males. Male prevalence clearly peaks at age 17, with nearly 10% of all 17-year-old males being registered for an offense. Prevalence rates decrease rapidly as males age, resulting in a prevalence of less than 1% among men in their mid-60s. Female onset tends to come later than that for males, and their age-specific prevalence rates are always considerably lower. Prevalence for women never exceeds 2%, and their prevalence varies relatively little from the age of 18 to the late 40s. Gender-specific age-crime curves thus indicate that the major differences in crime prevalence between the sexes are most apparent among the young, and that these differences decrease with age.

Lifetime prevalence statistics indicate that more than half of all Danish males and a little over one-tenth of all females will be registered for some kind of offense during their lifetime. Lifetime prevalence for penal code offenses is considerably smaller, with male and female rates estimated at 1/7 and 1/20, respectively.

The study also demonstrates that participation in offending varies by social conditions, as measured by subjects' employment status. This is particularly true for penal code offenses, but also apparent in the case of traffic violations. It is *inter alia* shown that the prevalence of penal code offending among persons outside the workforce, that is, mostly persons excluded from the labor market, is more than 10 times higher than that for salaried workers. Furthermore, the age-crime curves for those in and outside the labor market are starkly different. Whereas the former follow the familiar age-crime pattern, the curve for those without employment continues to rise until a much later age, indicating that the damaging effect of being unemployed is bigger among adults than among the very young.

Finally, to investigate the relative influence of prevalence and frequency on national crime rates, the study disaggregates changes in the Danish crime rate during the study period by age. The results of this analysis suggest that the prevalence of offending was primarily responsible for changes in the overall crime rate over time. Taking the explanation of changing crime rates a step further, prevalence rates are then disaggregated by gender and occupational group. The proportion of young, male offenders decreased throughout the 1980s, but there was no corollary decrease for young female offenders. And throughout the same time period, the proportion of older offenders of both genders rose. The overall increase in penal code offending during the study period thus seems to reflect higher rates of prevalence or longer careers on the part of older offenders. Closer examination

reveals that the increase in prevalence among older subjects was not evenly distributed, but solely caused by an increase in prevalence among individuals lacking a connection to the job market.

Disaggregating prevalence rates by gender, age, and social conditions exposes interesting patterns in criminal behavior that are indiscernible in aggregate crime statistics but may have direct policy relevance.

Individual Crime Frequencies

THE INDIVIDUAL crime frequency indicates the number of criminal offenses an individual offender commits during a certain period, typically one year. In Anglo-Saxon literature, the annual individual crime frequency is often denominated by the Greek letter *lambda*.

Measurement of the annual individual crime frequency is a relatively recent development. Interest was sparked by a focus in American crime policy in the mid-1970s on the incapacitating effect of imprisonment. Confinement has an obvious preventive effect by physically inhibiting the confined from committing crimes. However, it was not until the first Philadelphia cohort study showed the uneven distribution of crime among offenders (Wolfgang, Figlio, and Sellin, 1972) that interest grew in using more goal-oriented confinement strategies (that is, to maximize the incapacitation effect).

To optimize this effect, it is necessary to predict individual crime frequencies, and this requires an understanding of the conditions responsible for variations in those frequencies. This was exactly the reason for the initiation of research in this area. The first study of individual crime frequencies is from 1978, a pilot study (Petersilia, Greenwood, and Lavin, 1978) for a subsequent (and better known) Rand Corporation study of self-reported criminality among inmates. One year later, Alfred Blumstein and Jacqueline Cohen published an article on individual crime frequencies which has achieved the status of pioneer work within the area of criminal careers research (Blumstein and Cohen, 1979).

Measuring Individual Crime Frequencies

Measurement of individual crime frequencies is based on *offenders who are criminally active during a specific period in question*. They must therefore have committed at least one offense during the study period. The minimum value of the crime frequency will consequently always be 1.¹

Crime frequency is generally measured for a *calendar year*. Λ is always used as denominator for the annual individual crime frequency, whether it is based on self-reported or registered criminality.

American studies sometimes utilize individual *arrest frequencies* as an indicator of crime frequencies. Individual arrest frequencies are denoted by the Greek letter μ (μ). This study uses the frequency of the registered crime, since arrests can be a very unreliable indicator of criminal activity. In Denmark many nonpenal criminal cases involve no actual arrest (for instance, traffic code violations). Examination of the study data has furthermore shown that a very large proportion of arrests do not lead to one of the criminal legal dispositions included in this study. A few subjects have been arrested more than fifty times during the study period without any criminal legal dispositions resulting. Naturally, the extent of arrests can reflect the functioning of the legal system (and the personal biases of individual police officers) to the same degree it reflects the criminal strain of those arrested. This raises the specter of myriad methodological problems, especially in regard to international comparative studies of μ .

In calculating the individual crime frequency per year, the question arises as to what extent and in which way any imprisonments should be considered. If an offender has been confined half the year, it can rightly be asserted that his or her crime frequency for that particular year is artificially low. Some studies take the time an individual has been confined into consideration when calculating crime frequency (see, for example, Blumstein and Cohen, 1979). In this study, individual crime frequencies are calculated in relation to both the calendar year and time in freedom. In the latter case, the time the individual has spent in prison is excluded. This is done by multiplying the crime frequency for each offender by the number of days in the year/number of days in freedom. If, for example, the individual has been confined half the year, his or her crime frequency will be multiplied by 2.

¹ The technique described is adopted from American research for use in the current study. There are alternative techniques for measuring frequency. For example, Andersson (1991) calculates the individual crime frequency over a longer period. Since the calculation includes individuals who have not been criminally active in every year, the individual crime frequency can be less than one.

The Uneven Crime Distribution

As previously mentioned, it was the Philadelphia study that first showed the very uneven distribution of crime, and thereby created interest in the individual crime frequency. The Philadelphia study, based on boys born in Philadelphia in 1945, shows that 18% of the offenders in the cohort had committed 52% of the offenses for which the boys were collectively registered by the age of 18 (Wolfgang, Figlio, and Sellin, 1972).

Similar results are shown by other studies. The Racine study, which followed three mixed-gender birth cohorts (from 1942, 1949, and 1955) until September 1976, shows that approximately 20% of the criminally active from each cohort were responsible for 80% of the crime (excluding traffic code violations) (Shannon, 1988). An even smaller portion of the offenders from the three cohorts – from 8 to 14% – was responsible for all the serious offenses (*ibid.*).

A third American cohort study of boys and girls born in California in 1956 shows a more even crime distribution. The study uses arrests as the indicator of criminal activity. It concludes that from their 18th to their 29th year, 67% of all arrests in the cohort concerns only 28% of those arrested, whereas 31% of the arrests concern 6% (Tillman, 1987).

In a study of a representative sample of the male population of Sweden, it is shown that 45% of all sentences were handed down to a group of 17% of the sentenced (Tham, 1979).

In Denmark it is primarily studies of self-reported criminality among young people that have shown the disproportion that exists in rates of offending. For example, Balvig (1982) has demonstrated that one-fourth of the young people who commit serious crimes have committed 75% of the serious crimes, while Kyvsgaard (1992) has shown that 15% of the young people who have committed offenses have committed 45% of the total crime among youth.

The aforementioned studies do not concern the most recent criminal career research issue of the yearly individual crime frequency. Rather, these studies concern the *cumulative crime distribution*, which is often measured over a somewhat longer period, and represents the *share* of the total crime of the most criminally active.

The cumulative crime distribution is also measured in the present study. Figure 8.1 shows the relation between all individuals and all offenses in the studied data (that is, how the almost 180,000 offenses are distributed over the 45,000 offenders).

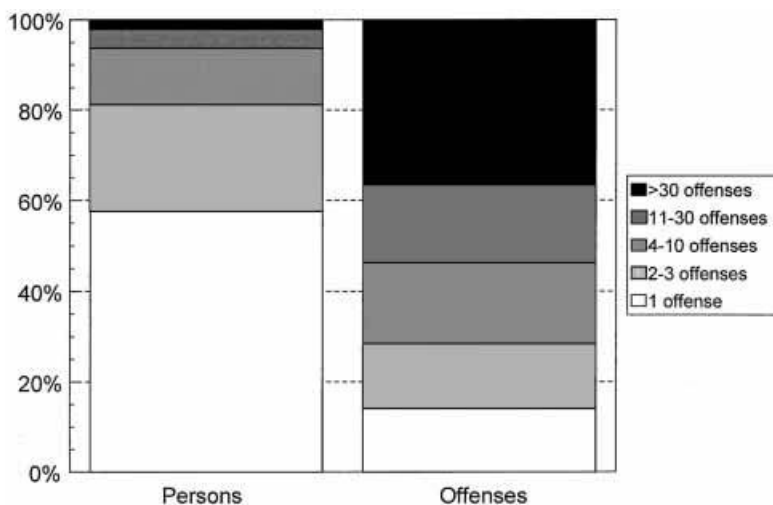


Figure 8.1. The individual crime frequencies of offenders and their share of all offenses during the study period.

More than half – 57% – of the offenders have committed only one offense during the study period. This group of offenders will be referred to herein as single-registration offenders so as not to give the (often false) impression that these individuals have committed no other offenses than the one for which they have been registered. In addition to this large group of single-registration offenders, a second group of almost one-fourth of the offenders contains individuals registered for only two or three offenses. The remaining one-fifth have committed four or more offenses during the 13 years of the study. One-50th of the offenders have committed more than thirty offenses each.

Starting with the most criminally active, one can differentiate and examine the size of various groups of individuals in relation to their share of the total crime. Such an analysis shows that:

- 0.2% of the offenders have committed 10% of the offenses
- 2% of the offenders have committed 37% of the offenses
- 6% of the offenders have committed 54% of the offenses
- 18% of the offenders have committed 72% of the offenses

This means that the very large group of offenders with a low crime frequency have a nominal part of the offenses on their collective consciences.

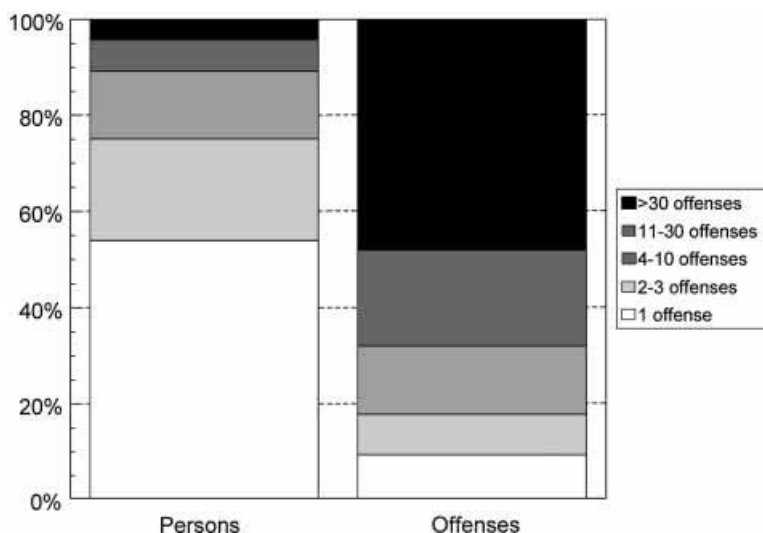


Figure 8.2. The individual crime frequencies of penal code violators and their share of all penal code offenses during the study period.

These results correspond very closely with what the Racine study has shown (Shannon, 1988).

Limitation of the analysis to offenses against the penal code, as shown in Figure 8.2, renders a pattern similar to that shown by Figure 8.1.

Since the social conditions of penal code offenders are generally poorer than those of other offenders, there are, as expected, fewer single-registration offenders among the penal code violators than among all offenders together. The difference, however, is not very big. The percentage of single-registration offenders is 54% among penal code offenders as compared to 57% when all offenders are examined together. The difference between the two groups is larger at the opposite end of the scale, as the percentage of high-frequency offenders (those who have committed more than thirty offenses) is twice as big among penal code offenders as compared to all offenders. In fact, this high-frequency penal code offender group has committed nearly half of all penal code offenses. Thus the average number of offenses among the penal code offenders (5.8) is larger than among the pool of all offenders (4.0). The skew in criminal activity among penal code offenders is, however, not very different from that found for all offenders. Again, starting with the most criminally active, the list below shows the proportion of all penal code offenses attributable to varying proportions of penal code offenders:

- 0.2% of the offenders have committed 6% of the offenses
- 2% of the offenders have committed 35% of the offenses
- 6% of the offenders have committed 58% of the offenses
- 18% of the offenders have committed 79% of the offenses

Had violations of the traffic and other special codes been included in the penal code violators' lists of crimes, their individual crime frequencies would have been considerably higher since penal code offenders are frequent violators of many other types of codes as well.

The uneven distribution of crime can also be examined for specific types of offenders. In the Nordic countries this has been done by Leif G. W. Persson (1976), who has shown that 10% of all burglars are responsible for half of all burglaries. Since this was the first Nordic study to show the very uneven distribution of registered crime, it attracted a lot of attention, as have follow-up studies (Persson, 1987), which have inspired debate about sentencing practice and incapacitation of offenders (as discussed in Chapter 14).

Analyses of specific types of offenders have also been performed on the current sample (Kyvsgaard, 1995b, 1995d). One analysis shows that burglary is indicative of an extensive criminal career. Seven percent of all offenders (and 19% of the penal code offenders) are registered for burglary. This small group is responsible for 45% of all offenses in the study period, and 64% of the penal code violations. If one selects the offenders who are registered for burglary and for either violations of the euphoriant law (the so-called "light drug act" pertaining to hashish and marijuana) or one of the penal code's sections on narcotics, a small group of 2% of the offenders (7% of the penal code offenders) is retained who on their own have committed 24% of all offenses and 34% of the penal code crime.

An analysis has also been performed on the individual frequencies of *crimes against the person* (including all forms of physical and sexual assault, as well as robbery and arson). Altogether, 7.5% of the offenders have been registered for crimes against the person (as defined above). The risk of this type of crime increases with overall crime frequency. Whereas only one out of fifty single-registration offenders commits crimes against the person, 50% of those who have committed more than thirty offenses (of any type) have done so.

This cannot be immediately interpreted as showing that the most criminally active commit considerably more crimes against the person than others. Since they commit many offenses, the probability of them committing an offense against the person will also increase. The question is therefore

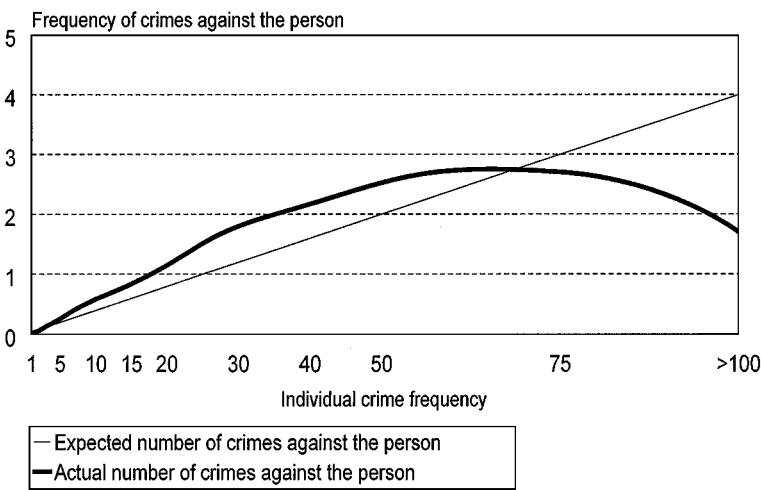


Figure 8.3. The actual and expected frequency of crimes against the person in relation to individual crime frequency.

whether rates of crimes against the person increase more than should be expected by chance alone. This question is addressed in Figure 8.3.

When the expected and actual frequencies of crimes against the person are compared, it appears that the frequency is lower than expected for individuals who commit less than four offenses. This is not evident from Figure 8.3, since the lowest values cannot be clearly read. What is important to notice, is that it is not only those with the lowest crime frequencies, but also those with the highest, who commit fewer crimes against the person than expected on the basis of chance. Thus, despite the fact that the probability of crimes against the person increases rapidly with the individual crime frequency, the most criminally active still commit fewer crimes against the person than would be expected if the offenses were distributed totally at random.

Time between Offenses

The fact that the crime frequency is so uneven, as illustrated by Figures 8.1 and 8.2, is in part an artifact of the long observation period of 13 years. The longer offenders are observed, the higher the individual crime frequency will be for some of those offenders.

The length of the observation period is, however, of less significance than one may assume. This is because most of those who commit additional crimes do so within a very short period after the last offense.

In half the cases where an offender commits a new crime, it happens within a month of the previous offense.² In an additional 32% of the cases recidivism occurs within 12 months of the previous offense. It is only in barely 3% of the cases that more than 5 years go by between offenses. A similar distribution exists for the first offender data.³

The fact that the majority of recidivism occurs shortly after the previous offense means that the *annual* individual crime frequency includes a great deal of recidivistic behavior and thereby gives a fairly good picture of individual rates of recidivism. When the values for the median and the mean annual crime frequency are quite low, it is not because the crimes of recidivists occur after a longer period of time, but rather because most offenders commit only one offense. The crime frequency is uneven at both ends of the scale: a very large group of offenders commit only one offense, whereas a very small group commits a great number of offenses.

The Yearly Crime Frequency

Annual crime frequencies were, as previously mentioned, first measured by the Rand Corporation and concerned self-reported criminality among inmates (Petersilia, Greenwood, and Lavin, 1978). This was a preliminary study based on only 49 prisoners. A later study included 642 inmates in California prisons (Peterson, Braiken, and Polich, 1980). A third Rand study included almost 2,200 inmates from three different states in the United States (Chaiken and Chaiken, 1982). All three studies show an extremely skewed crime frequency. The last of the studies shows that whereas the median is 15 offenses per year, the 90th percentile is at 605 offenses. This means that half the offenders have committed 15 or fewer offenses, and that the most active 10% have committed more than 605 crimes per year.⁴ The corresponding numbers for burglary are 5 and 232 burglaries, respectively. These calculations are adjusted for time in prison.

² In cases where the date of the crime is missing, the date of the charge or the disposition is used instead (as mentioned in Chapter 4). Since this primarily concerns traffic code violations, where the date of disposition can be assumed to lie relatively close to the date of the crime, and where recidivism is also relatively low, this will only slightly influence the calculation of time to recidivism.

³ The fact that so many cases involve a very short time between offenses should be considered together with the fact that one offense often gives rise to another. An individual under the age of 18 who steals a car may at the same time violate the Danish traffic code. Burglary, where a checkbook is part of the loot, will typically lead to forgery. And so on. It is therefore important to be aware that it is not the time between the previous and the next criminal legal disposition that is examined here, but rather the time between two successive offenses – regardless of whether a legal disposition comes in between or not.

⁴ This calculation excludes distribution of narcotics and other drugs. If these offenses are included the median increases by a factor of 3 and the 90th percentile by a factor of 3.5.

These Rand Corporation studies have met with strong criticism, in part because they were used to establish a very simple instrument for predicting future offending (Greenwood, 1982). The critiques have led to both a reanalysis of the study data by the Rand Corporation and an attempt by others to validate the results. The reanalysis concluded that the original methodology might have led to an overestimate of the crime frequencies in the upper percentiles. Even accounting for this, the crime frequencies remain very uneven (Visher, 1986). The attempt to validate Rand’s findings with new data also resulted in a wide distribution of crime frequencies, but not so wide as the Rand Corporation had found (Horney and Marshall, 1991). The validation study shows a median for all offenses (excluding narcotics offenses) of 4 crimes per year, while the 90th percentile is at 483 offenses. For those who have committed burglary, the median is 2 burglaries per year and the 90th percentile is at 112 burglaries. These calculations are adjusted for time in prison.

A Danish study of self-reported criminality among 8th grade students also shows – with a somewhat different method of calculation – great variation in annual individual crime frequencies. Criminally active children have committed an average of approximately 9 offenses per year. The most active 3% have committed an average of six times as many offenses, or approximately 55 (Kyvsgaard, 1992a).

In the present study, the individual crime frequencies vary between the different years included in the study. The variations are, however, quite small, and it is the uniform main features that are prominent. Figure 8.4 shows the

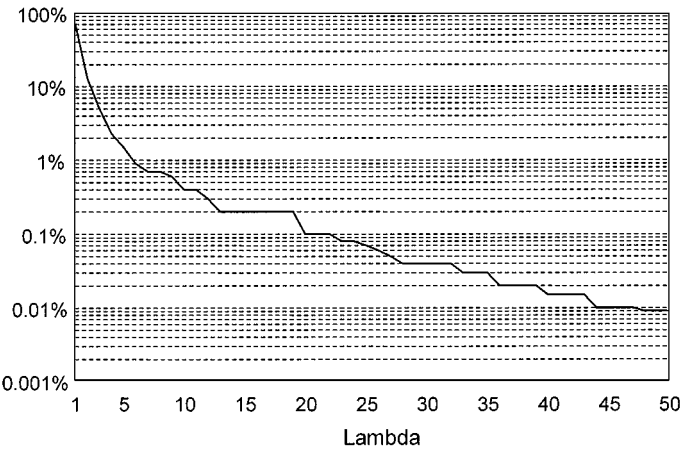


Figure 8.4. The percentile distribution of individual crime frequencies (all offenses) per year. Logarithmic scale.

yearly crime frequency of offenders. A logarithmic scale has been required to illustrate the very uneven crime frequency that exists. The majority of offenders – almost three-fourths – commit only one offense during the year. Just over one-tenth commit two offenses, and about every 20th offender commits three offenses per year. The remaining 10% commit anywhere from four to one hundred offenses per year. The average is just over two offenses per year.

The aforementioned American studies concern the median and the 90th percentile. If similar calculations are performed in the present study the result shows the median to be one (as also clearly indicated by Figure 8.2), and the 90th percentile is at three or four offenses per year.

When the crime frequency is calculated for *all* offenders (as in Figure 8.4), the total result will be considerably influenced by the fact that many traffic code violators have a low yearly crime frequency. For penal code violators the picture is somewhat different. The median is still one per year, but the 90th percentile increases to seven or eight offenses per year. The average frequency of penal code violations also increases to three or four per year.

Calculations have also been done to account for the time individual offenders have been confined and thereby in principle incapacitated. However, this leads to only minor changes in the above mentioned results, as the median remains the same, and the cutoff point for the 90th percentile is increased by only one offense.

Compared with the American studies, this study shows a much lower crime level and a much smaller difference between the median and the 90th percentile. There may be at least three reasons for this.

First of all, the American studies cited above are based on self-reported crime, whereas the present study includes only those offenses that are registered and solved. As discussed in Chapter 3, the use of registry data will always result in a lower crime frequency than that of self-report data, since the former exclude those offenses for which no charges, arrests, or convictions occur, thus excluding the majority of offenses. A study of self-reported criminality will therefore show much greater variation in crime frequency than a study based on registered crime.⁵

⁵ Some register studies artificially adjust for the discrepancy between registered and actual crime frequencies by estimating the average number of crimes committed before an arrest takes place, and then multiplying registered crimes by that number (Blumstein and Cohen, 1979). This assumes, however, that all registered crimes are committed by offenders known to the police, and that crime clearance rates are the same for all offenders. Both assumptions are unthinkable. Adjustments such as these can only give a very rough impression of the relationship between individual frequency of arrest and actual individual crime frequency.

Second, the American studies cited above were based on data from prison inmates. Compared with offenders in general, those in prison probably have longer and more serious criminal histories.

Third, calculations which correct for the time in prison run a risk of overestimating the crime frequency, as is discussed in the following sections.

Crime Frequency and Age

On the basis of the data from the Project Metropolitan-Stockholm study several analyses have been performed on the relation between crime frequency and age. One analysis points out that the 15- to 18-year-olds, who have the highest crime prevalence, also have the highest frequency with an average of 4.7 offenses per year (Andersson, 1991). Crime frequency does not decrease as much with age as prevalence does. On average, Swedish subjects between the ages of 19 and 30 have an annual crime frequency of about four offenses. The study also calculates the yearly "*lagföringsfrekvens*," or frequency of total criminal legal dispositions. This follows the same age pattern as the crime frequency. Another Swedish analysis also shows that the crime frequency is highest among young offenders pointing at the 15-year-olds as having the highest frequency (Wikström, 1990). However, it is cautioned that the relation between crime frequency and age depends on which types of crime are examined.

English studies have also shown individual crime frequency to follow the age pattern of prevalence, hence being highest among the very young (Farrington, 1992a). As in the Swedish studies, however, only small differences are found between the crime frequency of the young and that of somewhat older offenders (Farrington and Wikström, 1992).

An American review of the research in the area claims, however, that there are no clear age-related patterns in individual crime frequencies (Blumstein, Cohen, Roth, and Visser, 1986). This conclusion seems to be based on a single study (Blumstein and Cohen, 1979), one which has been strongly criticized on methodological bases (Gottfredson and Hirschi, 1986). The results of the study should perhaps be considered together with the fact that crime frequency was calculated per year in freedom instead of per calendar year. Other American studies have shown that crime frequency does decrease with age (see, for example, Nagin and Smith, 1990).

The present study concurs with these other American studies, as illustrated by Figure 8.5. Based on all offenses, the annual crime frequency is calculated to be just over 2.5 for the 15- to 19-year-olds, after which it slowly

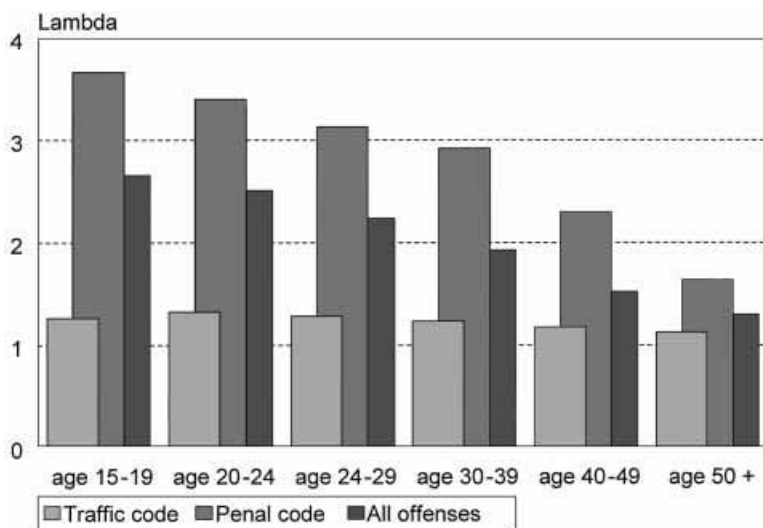


Figure 8.5. Average age-specific annual crime frequency, by type of crime.

but steadily decreases to 1.3 offenses per year for those over age 50. For violations of the penal code, the difference between the youngest and the oldest offenders' crime frequency is even greater. The frequency of penal code violations decreases from 3.7 per year for the 15- to 19-year-olds to 1.7 for those over 50. The frequency of traffic code violations, however, is unrelated to age. It remains fairly constant across all age groups and is relatively low, never exceeding 1.3 violations per year.

Looking at the age-related changes in crime prevalence, as shown in Figure 7.1, it is clear that the frequency curve follows the same pattern. This means that active offenders in those age groups in which crime is particularly prevalent can also be expected to have a relatively high activity level, and vice versa. The relationship between age and crime frequency is, however, somewhat smaller than that between age and crime prevalence.

Compared to the findings of Project Metropolitan-Stockholm, this study shows a slightly lower crime frequency among the very young. This may reflect real differences in behavior, but it may also be caused by sample composition and methodological factors. The Swedish study includes only big city youth and is based primarily on penal code violations.

Data charted in Figure 8.5 is calculated without regard to whether or not the offender has been incarcerated at any time during the previous year. If individual crime frequency is recalculated based on *time at risk*, the picture becomes somewhat different, as shown in Figure 8.6.

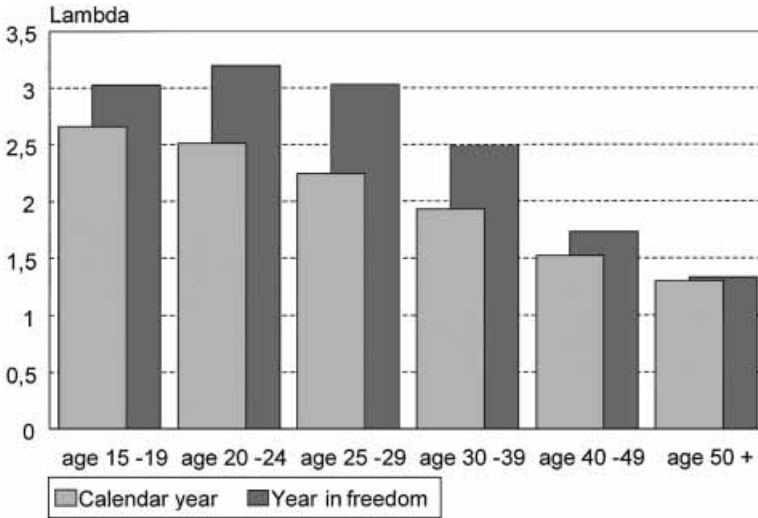


Figure 8.6. Average age-specific crime frequency per calendar year and per year in freedom.

Accommodation for time at risk should logically result in a slightly higher crime frequency, though it need not, in principle, have any effect on the relation between crime frequency and age. Nonetheless, when adjusted for time at risk, it is the 20- to 24-year-olds who have the highest crime frequency, whereas the 15- to 19-year-olds and the 25- to 29-year-olds share an equal and slightly lower crime frequency.

The question, then, is which of these two methods of calculation provides the most valid picture of the relation between age and crime frequency. This author believes that individual crime frequency per calendar year represents age-related changes more accurately than crime calculations based on time at risk. Time at risk calculations assume that an offender's monthly crime frequency is the same immediately prior to and/or immediately following a stay in prison as it would be at any other time of the year. There are, however, many reasons why crime frequency may be particularly high at exactly these times. For instance, heightened activity may have led to apprehension and incarceration. Recidivism may also be more frequent during the first six months of release than later, as discussed in Chapter 15.

Mathematical adjustments for time in prison further mean that offenders who have been incarcerated most of the year but who, during a brief time in freedom, have committed new offenses, are assigned a very high crime frequency. For example, if an individual has been in prison the entire year until December 1, and he or she commits two new offenses immediately

after release, this will result in a crime frequency of $2 \times (365/31) = 23.5$. If the release occurs 2 weeks later the frequency will double.⁶

It is very likely that this correction for time at risk causes the relation between age and crime frequency to be different per year in freedom than per calendar year. The age-related differences between crime frequency per calendar year and per year in freedom overlap quite precisely with age-specific rates of incarceration. Blumstein and Cohen's (1979) finding that crime frequency does not change with age in the same way as prevalence may be an artifact of that study's correction for time at risk. As shown in Figure 8.6, when a correction is made for time in prison, age-related changes in crime frequency are minimal up until the age of 30.

There are alternative techniques for adjusting for time at risk, but it is hardly possible to find methods without weaknesses. The remaining analyses of the current study will therefore be based solely on frequency per calendar year.

Trends in Annual Crime Frequencies

The previous analyses portray average crime frequencies in relation to age at the time of the crime, but do not show how crime frequencies change over time for the *same* individual. This question has not been addressed in other publications, probably because it requires a great number of observations over a long period of time (Bondeson, 1989, discusses a somewhat similar topic).

Since this study includes a great many observations during a 13-year period, a single analysis has been made to examine this issue. The analysis is based on the onset data, which include only two birth cohorts, aged 14 and 15, in 1979. Since it is less instructive to study the development in crime frequency for very low-frequency offenders, the analysis includes only those who have committed at least six offenses during the study period.

This analysis, which divides the individuals according to total number of offenses in the study period, shows that among those who have committed many offenses (> 20), there is a sizable increase in the yearly crime frequency before 1983, followed by a decreasing crime frequency thereafter. This trend is shown in Figure 8.7 for all offenders.

⁶ To avoid extremely high frequencies for those who offend after having been out of prison only a few days, the current study requires that a minimum number of days be included in the calculation of crime frequency per year in freedom. If an individual has been incarcerated more than 359 days during a calendar year, he or she is considered to have been confined the whole year. Crimes occurring in the extra six days are excluded from the analysis.

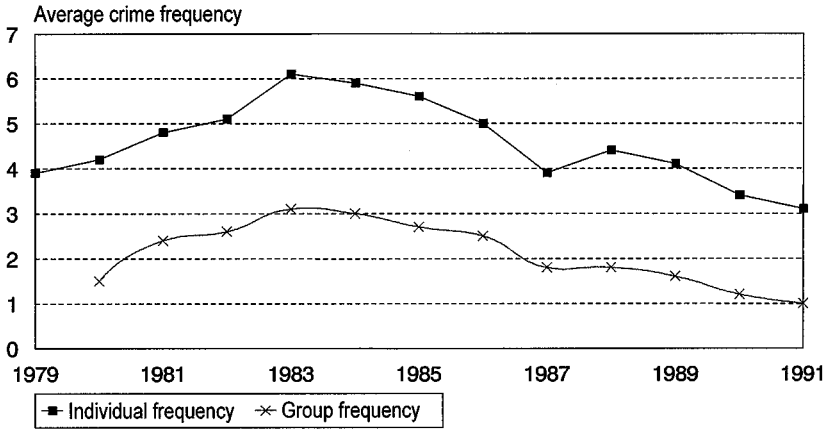


Figure 8.7. Trends in average crime frequency for very active offenders, including all types of offenses (indicated by individual and group frequency).

Figure 8.7 portrays trends in both individual crime frequency and group frequency. Data on individual frequencies include only those offenders who were criminally active in the year in question, whereas group frequency data indicate the average yearly frequency for all offenders in the sample. The level for the group frequency is therefore lower than that of the individual frequency. Data for the group frequency were not available until 1980, since this was the first year that all subjects in the group had reached the minimum age of criminal responsibility.

Figure 8.7 shows that both frequencies are increasing up until the offenders' 18th or 19th birthdays in 1983. Thereafter, the frequency decreases, and by age 24 to 25 it is at the same level as it was at the age of 15 to 16. The frequency during the last two years of the study is probably artificially low, since offenses committed during these years may not have been solved until after the end of the study period.

For high-frequency offenders, trends in individual crime frequencies are characterized by acceleration in the first years of the criminal career, followed by deceleration during the latter part. This inverted U-curve indicates that the criminal career is probably ceasing for many of the high-frequency offenders after approximately 10 years (as also discussed in Chapter 11 on desistance). As discussed in Chapter 13, trends in the seriousness of the crime are also characterized by an inverted U-curve for those offenders who have an extensive criminal career. Acceleration in crime frequency and escalation in seriousness thus seem to go together, as do deceleration and de-escalation.

Crime Frequency and Gender

Since gender-specific studies of crime frequency require extremely large sample sizes, they are relatively rare. Those few studies that do concern gender differences suggest similar crime frequencies for both males and females (Blumstein, Cohen, Roth, and Visser, 1986, p. 67 ff.). Hence, the most significant gender differences seem to be in prevalence: many fewer women than men commit crime in the first place.

The Project Metropolitan-Stockholm study shows clear gender differences, as the male-female ratio for individual crime frequency is 9.1 to 4.5, or twice as big for male as for female offenders (Wikström, 1990).

The current study also shows a clear difference between male and female crime frequency, as shown in Figure 8.8. This is especially true for the very young, as the difference decreases with age. When compared to the difference between male and female prevalence, the difference in crime frequency is considerably lower. Still, an undeniable difference exists, and that difference is found in all age groups.

For penal code violations only, the difference between male and female crime frequency is different from that for the total number of offenses. Among young penal code violators, the male crime frequency is almost double that of the female, which corresponds quite well with the results from Project Metropolitan-Stockholm. In the traffic code area, overall differences,

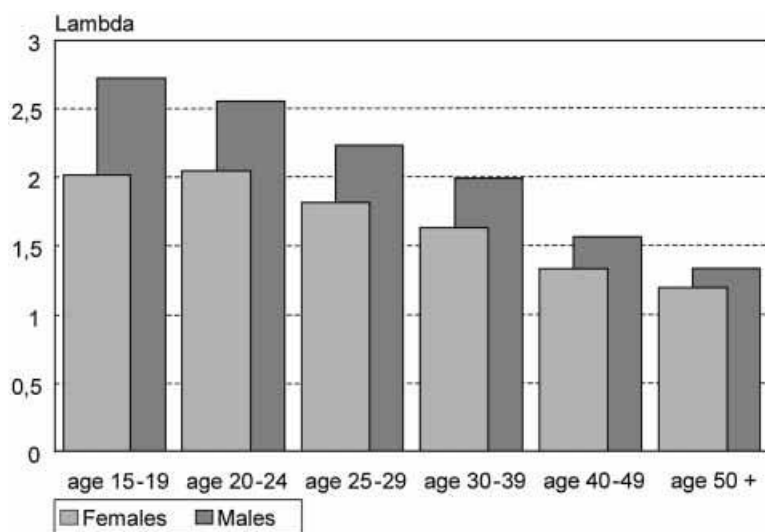


Figure 8.8. Age-specific individual crime frequency, by gender.

as well as differences between age groups, are smaller: Male frequencies vary from 1.1 to 1.4 (being highest for 20- to 24-year-olds), whereas female frequencies are just over 1 at all age levels.

Crime Frequency and Employment Status

A subanalysis within the Project Metropolitan-Stockholm study found that those with a working class background exhibit a stronger age effect on crime frequency than the sample as a whole (Farrington and Wikström, 1992; Wikström, 1991). Among youth with a working class background, the crime frequency is somewhat higher than for youth in the general sample, whereas among elder working class subjects it is somewhat lower.

As opposed to these findings, the present study shows that those of all age groups who do not belong to the workforce have a higher crime frequency than those who are employed, as shown in Figure 8.9. That the difference is smallest for the oldest offenders may partially reflect the fact that most of those subjects are retired. The significance of not belonging to the workforce is therefore different for this age group than for the younger subjects. The same can be said about the 15- to 19-year-olds, since many of those who do not belong to the workforce are students. As for the remaining age groups, not belonging to the workforce is often related to long-term unemployment or early retirement. As shown in Figure 8.9, the crime frequency for the 20- to 50-year-olds who do not belong to the workforce is at least double that of the employed. The crime frequency of unemployed offenders is generally between these extremes.

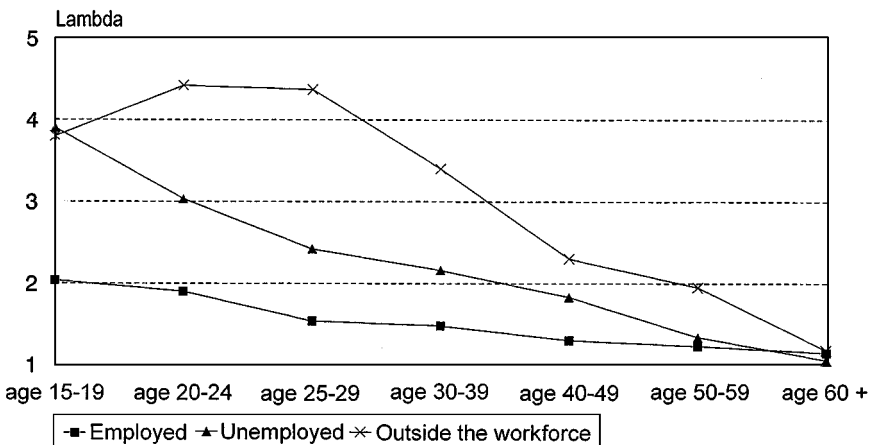


Figure 8.9. Age-specific individual crime frequency, by employment status.

A similar pattern to the one shown in Figure 8.9 is found in analyses of penal code offenders only, but with an expected increase in frequency.

Hence, beyond age and gender, there is also a strong correlation between employment status and crime frequency. This association corresponds to the relation between employment status and crime prevalence, since those who are employed have the lowest crime frequency whereas those without a job have the highest.

Changes in Crime Frequency

An earlier publication by this author asserted that crime frequency among penal code offenders was decreasing during the study period (Kvysgaard, 1994). This statement was largely based on a clear drop in the crime frequency of youth during the last part of the study period. However, it is now acknowledged that the last two years of the study data may provide misleading results. Underestimates may occur since some offenses are not solved and prosecuted until 1 to 2 years after they are committed, that is, after the end of the study period. The following discussion about changes in crime frequency thus only concerns the period 1979 to 1989.

During this period, changes in crime frequency become less pronounced. Generally, the average crime frequency is relatively constant. If one considers only traffic violations, there is an increasing crime frequency during the study period. On the other hand, the frequency of penal code offenses decreases. Although the increase in the frequency of traffic code violations is especially obvious for those age groups under thirty, the frequency for penal code violations decreases only for those under the age of twenty.

The study period does not reveal clear trends in male or female crime frequency. Nor does the relation between employment status and crime frequency change significantly. Still, at the end of the period there is a decrease in crime frequency among those who are employed, whereas the frequency for the unemployed offenders and for those not belonging to the workforce fluctuates.

Trends in age- and gender-specific crime distributions of the 1980s (as mentioned in Chapter 7) thus seem to be caused less by changes in the frequency of offending than by changes in the overall prevalence of crime.

Summary

Individual crime frequencies – λ – vary from 1 to just over 100 registered offenses per year. The vast majority of offenders, however, are registered for only a single offense in any given year. Only one-fourth of the

offenders are registered for more than one offense in any given year, and only one in a thousand offenders is registered for more than 50 offenses in any given year. The distribution of individual frequencies is thus heavily skewed.

The uneven distribution of offending means that a small group of individuals are responsible for a large proportion of the total crime. The most criminally active 2% of offenders have committed more than one-third of the offenses included in this study. Fifty-seven percent of those who offended at any point during the 13-year study were registered for only a single offense. This majority of offenders was therefore responsible for less than 15% of all registered offenses during the 13-year period.

As with participation, crime frequency peaks among the young. This means that the aggregate age-crime curve is a product of both the high rate of youthful participation in crime, and the high activity level of these young offenders. Age-specific differences in participation, however, rather than frequency, are primarily responsible for the basic form of the age-crime curve.

Trends in individual crime frequencies among high-rate offenders show an increasing frequency in the years of youth. This frequency peaks at the age of 18 to 19, and decreases thereafter. The age distribution for individual crime frequency thus follows an inverted U-curve.

There is a similar parallel between gender-specific crime prevalence and frequency. Both the prevalence and frequency of offending is lower for females than for males. Differences in gender-specific prevalence and frequency are both greatest among the young. As with age, however, gender has greater influence on participation than on frequency.

Like prevalence, frequency is also related to the employment status of offenders. Both prevalence and frequency are lowest for those who are employed, and highest for those who are not. Offenders not belonging to the workforce have a particularly high crime frequency.

Changes in the distribution of crime by age and sex that took place in the 1980s appear unexplainable via changes in the frequency of offending. Behind an unchanged, general crime frequency are hiding only minor changes in the frequency of different types of offending. Crime frequency varies by age, gender, and employment status, but it seems to vary only slightly over time.⁷

⁷ See Copas and Tarling (1988) for models concerning variations in crime frequency.

Criminal Onset

MANY STUDIES have shown a correlation between maladaptive behavior and both delinquency in early life and criminality in adulthood (Mitchell and Rosa, 1981; Moore, Chamberlain, and Mukai, 1979; Shannon, 1988; Kempf, 1990; Nagin and Farrington, 1992a, 1992b; Farrington, 1986; see also discussion and review of the literature in Loeber, 1987). Those who exhibit problem behaviors in youth are much more likely to commit crime at a later time.

This raises questions regarding the import of criminal onset and its relation to the extent and type of subsequent offending. These questions are examined here, as is the relationship between time of onset, gender, and employment status.

Some of the previous research concerning onset has looked at whether similar factors explain the characteristics of both onset and persistence in crime. Due to the character of the present study, that question is difficult to examine empirically, but issues surrounding it can nevertheless be discussed.

Time of Onset

It is well known that many commit crime at a very young age. The latest Danish study of self-reported criminality shows that 35% of the primary school students in a Danish county had engaged in delinquency before the age of 12 (Kvsgaard, 1992a). Many American studies of delinquency provide similar results (Loeber, 1987).

As shown in a Canadian study (Blanc and Fréchette, 1989, p. 78), age at onset based on registered crime will typically be higher than if based on

self-reported criminality since individuals are seldom registered until after the minimum age of criminal responsibility. Register-based age at onset is likely to be even higher in countries that lack systems of juvenile justice (such as the Nordic nations) since the age of criminal responsibility is relatively high. In Denmark, for example, very few of the 2,000 to 3,000 children under the age of 15 whom the police come into contact with are listed in the crime register.¹ Furthermore, statistics compiled by the police regarding delinquent children can hardly be used to determine age at onset since high fluctuations indicate that they are incomplete (Kyvsgaard, 1992a).

In England, where special regulations for juveniles allow registration by the age of 10, Farrington's Cambridge study of working class London boys shows that 1.5% of the 10-year-olds are registered (Farrington, 1992a). This figure slowly increases to almost 5% of the first-time offenders among the 14-year-olds (*ibid.*).

Most of the previous studies on age at onset include only men. One exception, however, is Project Metropolitan-Stockholm, which shows that first-time offending peaks at the age of 13 (Wikström, 1990).²

In the current study, the measurement of onset is based on those individuals who were 14 to 15 years old at the start of the study in 1979, referred to as the onset sample. Due to the length of the study period, these first-time offenders can only be measured up through and including age 26.

Figure 9.1 shows that for the total number of offenses, most first-time offenders are age 16. Just over 5% of those in the onset sample committed their first offense at this age. The number of first-time offenders decreases quickly thereafter. Just over 2% of the onset sample committed a first offense at the age of 18. The decline in the number of first-time offenders continues for the older age groups at a somewhat slower speed. Among the 26-year-olds less than 1% commit a first offense.

If one focuses on penal code crime, both the magnitude of offending and its course of development are different from those for the total number of offenses. In the penal code area, first-time offending is most common among the 15-year-olds. Two percent of this age group commit their first offense by violating the penal code. The number of first-time offenders decreases thereafter more slowly and steadily than that shown for the total number of offenses. By the age of 17 the number of first-time penal code offenders has

¹ A study shows that only approximately fifty registrations are made of children every year (Kyvsgaard, 1992a).

² The reason that Project Metropolitan-Stockholm is able to estimate a peak for first-time offending at age 13 is that up until 1977 the Swedish crime register included information on children under the minimum age of criminal responsibility.

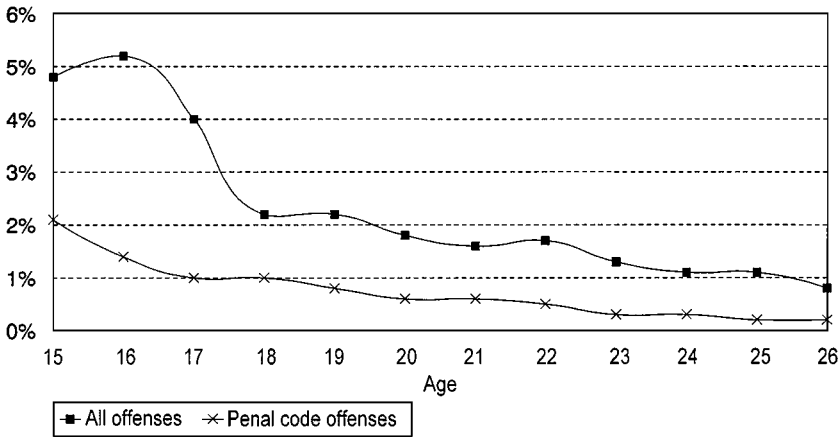


Figure 9.1. Age-specific rate of first-time offending in the onset sample, by type of crime.

dropped by half, and among the 26-year-olds it is only 0.2% who commit a first offense.

The correlation between the two curves in Figure 9.1 indicates that the large number of 15- to 17-year-olds who commit any type of first offense is related to the interest of young people in automobiles and speed. Many commit their first offense as violators of the traffic code. The acquisition of a legal driver's license at the age of 18 undoubtedly restrains the addition of new, first-time traffic code offenders. The age distribution for those who commit their first crime as penal code offenders corresponds quite well to that found by the Project Metropolitan-Stockholm study.

Age at Onset and Gender

Since the commission of crime is dominated by men, Figure 9.1 primarily reflects the distribution of male age at onset. The age curve for first-time offending by females is very different, as shown in Figure 9.2.

Whereas 8 to 10% of the 15- to 16-year-old boys commit a first offense, only about 1% of the 15- to 16 year-old girls do so. And although there is a strong decline in the number of first-time male offenders over time, this is not the case for women. Among the women in their early 20s there are as many first-time offenders as among the younger women. Criminal onset among women is therefore not related to age in the same way as it is for men. There is little decline in the number of first-time offenders among women until around the age of 23, after which the decline is still not very strong.

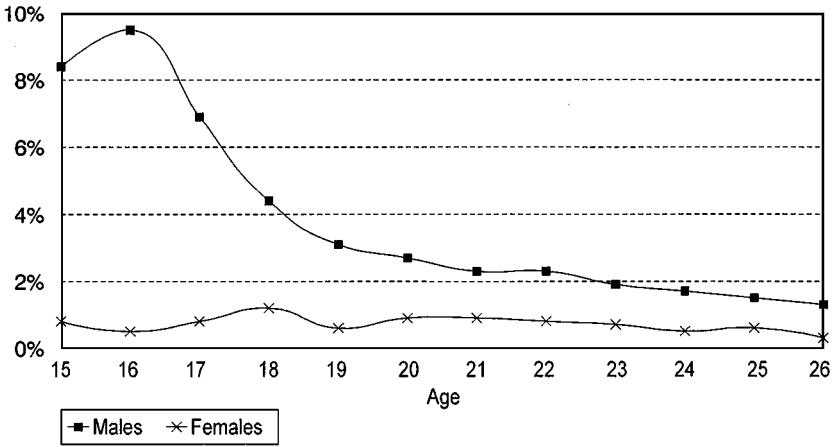


Figure 9.2. Age-specific rate of first-time offending (of any type), by gender.

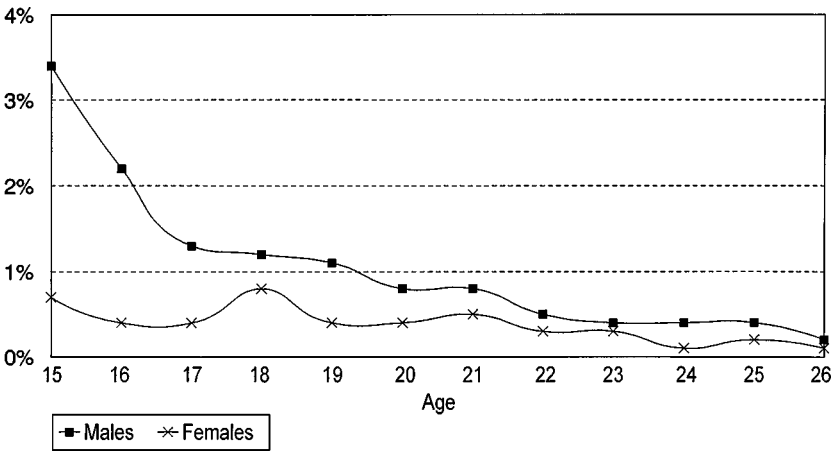


Figure 9.3. Age-specific rate of first-time penal code offending, by gender.

Hence, the figure does not leave the impression – as it does for the men – that a relatively nominal addition of new female offenders can be expected with increasing age.

The apparent gender differences in the rates of first-time youthful offending suggest that whereas two-thirds of the men registered for crime before their 27th year have committed a first offense at the age of 15 to 19, less than half of the registered women have started this early.

If one only considers first-time penal code offending, as in Figure 9.3, a clearer age-crime relation for females emerges. Compared with the men, the

difference between the rate of first-time offending among the very young and the somewhat older women is still small. The number of male first-time penal code offenders thus declines much more rapidly with age. While 3 to 4% of the 15-year-old boys commit their first penal code offense, little more than 1% of the 17-year-olds do so. From then and up to the age of 20 the number of male first-time offenders is relatively unchanged, after which a declining tendency is observed.

The different age curves for female and male first-time offenders emphasize something found in Chapter 7 on prevalence: that large-scale differences between men and women are most apparent in the area of youth crime. When Figure 9.3 is compared with Figure 9.2, it is also clear that the differences between the genders are smallest in the penal code area. Furthermore, Figure 9.3 demonstrates that gender differences in the rates of overall offending, so great in youth, are nearly eliminated by the early to mid-20s.

Studies from other countries point to similar differences in patterns of male and female onset. A study by the Home Office in England shows that first-time offending is most common for boys at the age of 14, but that female onset peaks at the age of 17 (Farrington, 1992a; see also Farrington and Wikström, 1992). And Project Metropolitan-Stockholm shows that gender differences in first-time offending decrease with age because the addition of female first-time offenders continues at a time when male first-time offending has declined considerably (Wikström, 1991).

Age at Onset and Social Conditions

Project Metropolitan-Stockholm also examines the relation between offenders' social backgrounds and age at onset. Social conditions are measured by parental profession. The study shows a clear correlation between early onset and social background, as the percentage of first-time offenders among youths with a working class background is considerably higher than among those with a middle class background (Wikström, 1991). Wolfgang's Philadelphia study shows that early onset is more closely associated with weak socioeconomic conditions than is late onset (Wolfgang, Figlio, and Sellin, 1972). The Cambridge study of a London cohort suggests that early first-time offenders suffer not only from a weak socioeconomic background, but also from a variety of other difficult conditions while growing up as compared to the late first-time offenders (West, 1982).

The current study does not include information about the social status of the parents, but only about the employment conditions of the offender. But it is problematic to evaluate the social conditions of the very young based on information about their connection to the job market, as many

young people are students. To be without a job in the years of youth is therefore not necessarily a sign of social difficulties; in fact, it can be quite the contrary. An earlier study has shown that when compared to youths in general, considerably fewer of the youths who commit crime are pursuing an education (Kvysgaard, 1989). The information about employment should be evaluated with this in mind, together with some caution.

The study shows that the number of employed offenders grows with increasing age at onset. Among those who commit their first offense as 15-year-olds about half are employed, whereas about three-fourths of those who commit their first offense at the age of 25 are employed.³ For penal code violations only, there is an increase from a 35% employment rate among the 15-year-old first-offenders to just over 60% among those who commit their first offense at the age of 25. Connection to the job market does not increase evenly with age at onset, but the main tendency is still clear.⁴

As shown in other studies, the current analysis also indicates that early onset is connected with more difficult social conditions than late onset.

Time of Onset and Persistence in Crime

As mentioned earlier, many studies have shown that behavioral problems while growing up are predictive of crime later in life. Such studies are based on a comparison of children and adolescents who do and do not exhibit such behavioral problems. This study contains behavioral information only about criminal involvement, and even then only at the age of 15 and beyond. Behavioral stability can therefore be examined here only by comparing those who commit their first offense during their youth with those who do not.

It is obvious that early first-time offenders have a higher risk of criminality later in life than those who are not registered for crime at all during their youth. The calculations show that of those who commit their first offense at the age of 15 to 17 years, 65% are registered for new offenses before their 27th birthdays. Among the remaining individuals born in 1964–5, only 15% are registered for an offense after the age of 17.

The relationship between age at onset and persistence in crime is somewhat complex. Here it is not “problem children” who are compared to “problem-free children,” but early and late “problem children” who are compared to each other.

³The employment conditions concern the year the individual commits his or her first offense.

⁴There seems to be a quantitative difference in employment rates between the 15-year-olds, the 16- to 18-year-olds, and those who commit their first offense at a later age. This means that employment rates for first-time offenders are not always significantly different from one age group to the next, but that there are significant differences between the wider age groups.

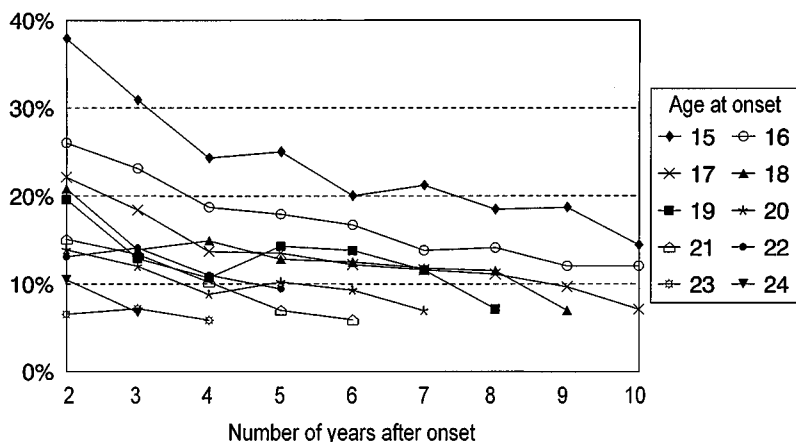


Figure 9.4. Recidivism rate in the years after onset, by age at onset.

Previous studies concerned with this question offer less unambiguous results than those mentioned earlier. There are studies which show that early onset is associated with higher rates of recidivism than late onset (Tolan, 1987; Farrington and Wikström, 1992). But there are also studies which find no significant relationship between age at onset and persistence in crime (see Farrington, 1986, in reference to both: studies that confirm the relation between early onset and persistence in crime, and those that do not; see also Paternoster et al., 1997).

Figure 9.4, which illustrates this problem based on the current data, indicates that there is a correlation between early onset and persistence in crime. A clear difference in recidivism frequency is apparent between those who commit their first offense as 15-year-olds, and those who do it later. This seems to confirm the notion that the earlier an individual commits his or her first offense, the higher the risk of recidivism.

The question remains, however, whether it is the age at onset which is of importance for the number of recidivist offenders, or if it is the age at the time of the crime that matters more. The relation between age at onset and recidivism, as shown by Figure 9.4, may thus be a result of more frequent recidivism among young offenders than among older ones – regardless of the time of onset. Whether this is the case is difficult to read from Figure 9.4, since recidivism there is not related to age at the time of the recidivism. It is, however, in Figure 9.5.

Compared with Figure 9.4, Figure 9.5 more clearly illustrates that persistence in crime is related to more than just age at onset. The lines between

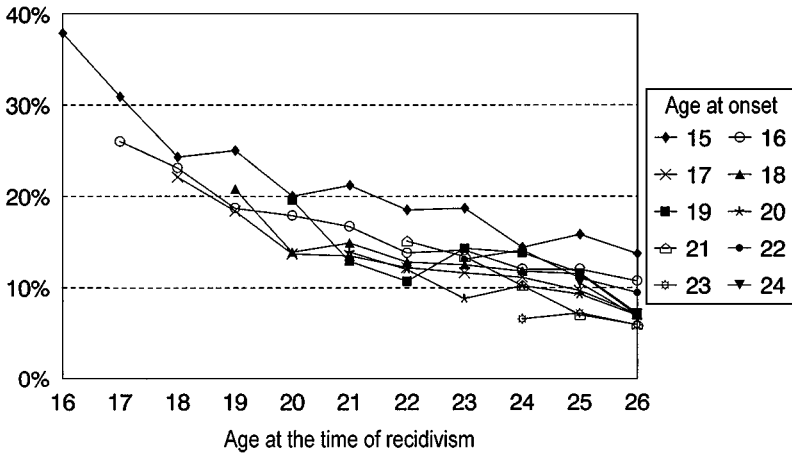


Figure 9.5. Recidivism rate, by age at onset and age at time of recidivism.

the numbers of recidivist offenders thus clearly move closer together, when age at time of recidivism is taken into account.

The statistical analyses performed thus far show that both age at onset and age at the time of crime are associated with criminal persistence. Age at the time of the crime, however, presents a slightly stronger association to criminal persistence among the criminally active than does age at onset.⁵

The question of the importance of age at onset and of age at the time of crime is further illustrated by an analysis of desistance from the criminal career.

Figure 9.6 shows that the number of individuals who stop committing crime increases fairly steadily with age. The trend shown is largely the result of a considerably greater number of single-registration offenders (that is, individuals who commit a first offense but who do not recidivate) among the late first-time offenders than among the early first-time offenders.

The difference between the groups with different ages at onset, but the same age at desistance, is very small. The statistical analyses show that when the age at onset is disregarded, the number of desisting individuals is independent of the time of onset at the other age levels.⁶ Age at onset therefore

⁵ The data are analyzed via variance and regression analyses. At a 5% significance level, each age category for both age at onset and age at the time of the crime contributes to the explanation of the variation in the extent of crime. At a 1% significance level, however, the age at onset does not differentiate between the 16- to 20-year-olds or the 21- to 23-year-olds; the age at the time of the crime does, on the other hand, differentiate between the criminality at several age levels.

⁶ Variance and regression analyses are also used here.

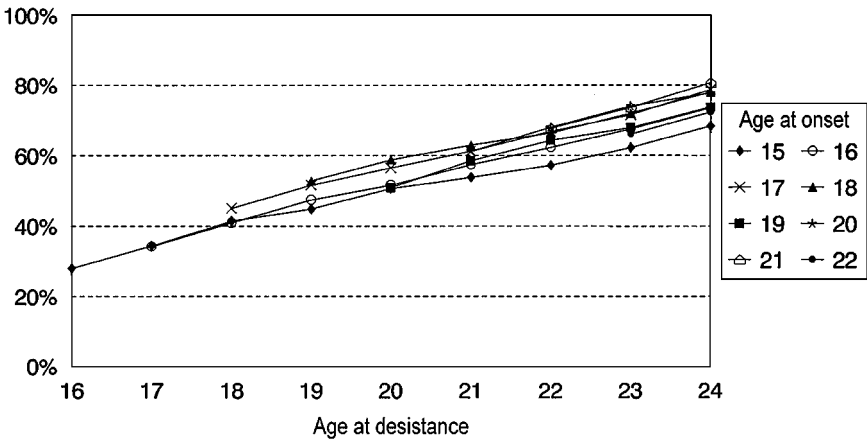


Figure 9.6. Age at desistance, by age at onset.

seems to have little influence on the likelihood of desistance from crime at any age.

Age at Onset and Crime Frequency

Farrington’s London cohort study indicates that children who commit a first offense at an early age commit considerably more crime than those who become criminally active at a later age. Those who commit their first offense at the age of 10 to 13 commit an average of 8.1 offenses by their 32nd year, whereas those who commit their first offense as 17- to 20-year-olds commit only 2.4 in the same period (Farrington, 1992a). Whether this is because early starters have a higher individual crime frequency than late starters or because crime frequency is just generally higher among younger than among older offenders, is not addressed in the study. The same critique can be leveled against other studies (Tolan, 1987; Farrington and Wikström, 1992).

The question is examined, however, in an American study based on official data (Loeber and Snyder, 1990). It shows that the individual crime frequency is independent of age at onset (that is, independent of whether young people have been involved in crime through many years or not). It is therefore concluded that the only information necessary to predict the average crime frequency for active offenders is the offender’s age.⁷

⁷ The study also shows that the individual crime frequency does not decrease, but increases with increasing age. This should be considered together with the fact that the study includes very young offenders (children 8 to 16 years old).

Table 9.1. *The average number of offenses per offender, by age at onset and age at the time of the crime (all offenses.)*^a

Age at Onset	Age at Time of Crime									
	15	16	17	18	19	20	21	22	23	24
15	2.1	4.4	5.2	5.8	5.1	6.5	5.4	4.2	2.8	3.3
16		1.6	2.8	3.5	3.2	3.0	2.9	2.2	1.8	3.1
17			1.6	3.4	2.3	2.6	3.4	2.8	2.6	2.7
18				2.0	5.5	4.2	3.4	4.1	2.5	3.6
19					1.5	2.5	3.2	1.9	1.8	1.4
20						1.2	2.6	2.0	1.5	1.9
21							1.4	2.9	2.2	2.2
22								1.1	2.0	2.0
23									1.3	1.8
24										1.2

^a As mentioned in Chapter 8, it is problematic to use information about the crime frequency for the last years of the study period, since offenses solved at a later time will be missing. The average crime frequency is therefore calculated only until and including the 24th year, which means until 1988–9.

Similar results are shown in other studies (see the review in Farrington, 1986).

Chapter 8 suggests that crime frequency decreases with increasing age. It should therefore also be expected that the total crime frequency will decrease with increasing age at onset. Table 9.1 illustrates the extent to which the age at onset in itself, and the age at the time of the crime, contribute to the early first-time offenders having a generally higher crime frequency than those who commit their first offense at a later age.

Table 9.1 shows that crime frequency increases in the years immediately after onset. It should be remembered, however, that many first-time offenders do not continue to commit crime, as shown in Figures 9.4 and 9.5. The many individuals who only commit a first offense are included in the frequency calculation the first year but not in the following years. The increase in the crime frequency in the years after onset thus reflects both the high crime frequency of the recidivists and the exclusion of the desisters from the denominator.

Table 9.1 further shows that the crime frequency – for all ages at the time of the crime – is higher for the 15-year-old first-time offenders than for those who commit their first offense at a later time. Excepted are those of the highest ages at the time of the crime. Otherwise, there is no obvious or

systematic difference in crime frequencies for those who commit their first offense after the age of 15.

Statistical analyses have been performed to more accurately establish the extent to which age at onset and age at the time of the crime are of importance for the crime frequency. These analyses show that the age at onset differentiates between the crime frequency of those aged 15 to 18, but fails to distinguish between those who are older.⁸ As further shown by Table 9.1, the differences between the youngest first-time offenders' crime frequencies do not follow the assumption that early onset results in higher crime frequency than late onset, as the 18-year-old first-time offenders have a consistently higher crime frequency than the 16- and 17-year-olds.

The statistical analyses further show that age at the time of the crime differentiates between crime frequency in all age groups. The age of the individual at the time of the crime is therefore relevant to crime frequency regardless of the age at onset. When the first years immediately after onset are disregarded, Table 9.1 indicates a decreasing crime frequency with increasing age at the time of the crime.

Age at onset would thus seem clearly related to crime frequency. However, the relationship is far from perfect since early first-time offenders do not always have a higher crime frequency than those who commit their first offense later. Furthermore, as previously mentioned, age at the time of the crime influences crime frequency. The relation between criminality and age at the time of the crime consistently follows a somewhat clearer pattern than the relation between age at onset and crime frequency (that is, an inverse proportionality exists between frequency and age at the time of the crime: The higher the age at the time of the crime, the lower the crime frequency).

Age at Onset and the Seriousness of Continued Crime

Age at onset can also be assumed to have importance for the seriousness of continued crime. An American study shows that both the age at onset and the seriousness of the first offense are associated with the risk of criminality in adulthood (Kempf, 1988). Another American study shows that early onset leads to more serious crime than does late onset (Tolan, 1987).

It is this latter issue we test here. Tests are conducted via two simple measures: (1) the severity of the sentences handed down to individuals with

⁸ When the 19- to 20-year-old first-time offenders are considered separately, there is no difference in their crime frequency. The same is true for the 21- to 23-year-old first-time offenders.

Table 9.2. *The most severe sentence during a period of 5 years after onset, by age at onset and type of sentence*

Sentence	Age at Onset, Percent						
	15	16	17	18	19	20	21
Fine, warning	72	80	81	77	73	80	72
Withdrawal of charge, suspended sentence	16	12	10	12	16	10	17
Imprisonment	12	8	9	11	11	10	11

different ages at onset, and (2) the average seriousness of the offense committed. In the first calculation a fixed period of five years of observation after the time of onset is used. As the seriousness of the sentence depends on both the age of the offender and the number of prior convictions, it has been necessary to use a comparable and relatively long period of observation. This means that those with a high age at onset cannot be included in the evaluation.

Table 9.2 shows only small differences in the distribution of sentences in relation to age at onset. Compared with the 16- and 17-year-old first-time offenders, a considerable proportion of the 15-year-olds are sentenced to unconditional confinement. Still, it appears that there are almost as many 18-, 19-, and 21-year-olds who are sentenced to unconditional confinement. Based on the severity of the sentences, there are thus no clear or systematic differences in the seriousness of crime committed by offenders with different ages at onset.

The other measure of the relation between age at onset and crime seriousness is depicted in Table 9.3. Average seriousness is depicted on a six-point scale, with 1 the lowest and 6 the highest value of seriousness.⁹

Table 9.3 fails to indicate a simple relation between age at onset and the seriousness of crime. Still, when considering all offenses, there is a tendency for those who have committed a first offense relatively late to commit less serious offenses than those with an earlier age at onset. The opposite is true, however, when penal code violations are considered separately.

It must therefore be concluded that no clear relation between age at onset and crime seriousness is apparent in the current data.

⁹ Chapter 13 on escalation provides a description of the scale of seriousness that is based on sentencing options available for different offenses.

Table 9.3. *The average seriousness of all offenses, by age at onset and type of crime*

Age at Onset	All Offenses	Penal Law Offenses
15	3.14	3.30
16	2.83	3.34
17	3.00	3.80
18	3.16	3.63
19	2.77	3.44
20	2.72	3.36
21	3.01	3.84
22	2.34	3.62
23	2.27	3.80
24	2.14	3.47
25	2.01	3.83
26	2.17	4.03

Cause of Onset and of Persistence in Crime

Beyond the importance of the age at onset for the continued criminal career, interest has been focused on the question of whether the factors associated with early onset are the same as those associated with persistence. This corresponds to some degree to the question of whether distinct causes exist for prevalence and frequency, as discussed in Chapter 5.

Interest in this question is largely derived from a theory proposed by Gottfredson and Hirschi (Gottfredson and Hirschi, 1990): that a single personality feature determines criminal tendencies and that such tendencies are relatively stable throughout the life course. Among the studies that have tested this theory, one has found support for it (Nagin and Farrington, 1992b), others partial support (Nagin and Smith, 1990; Smith and Brame, 1994), and one cannot confirm that the same conditions are behind the first and continued crimes (Nagin and Farrington, 1992a).

Since the present study includes only a single social variable, it is difficult to examine whether the conditions behind onset are also behind continued crime. A simple analysis shows that significantly more of those individuals who only commit a single offense and desist thereafter are employed, as compared to those who go on to commit more crime. This corresponds to some degree to what is found in Chapter 8 and is further emphasized in the following chapter – that the patterns concerned become increasingly pronounced the more extensive a criminal career one considers. This means

that the young, the male, and the unemployed dominate more among those who commit a lot of crime than among those who commit little crime. This study thereby indicates that the presence of both criminogenic factors and crime itself exist on a *continuum* rather than as a dichotomy: the more crime, the stronger the existence or presence of criminogenic factors. Similar results are shown in an earlier study of offenders and their living conditions (Kvysgaard, 1989b). The offenders who are met with the most severe sanctions, and who therefore must also be assumed to have committed the most or the most serious crime, have significantly poorer living conditions than offenders who are sentenced to less severe sanctions. At the same time, the study shows that even offenders who commit less serious offenses, have significantly poorer living conditions than the population in general (*ibid.*). Thus, none of the living condition variables included in this study are related to only extensive or less extensive criminal careers. All variables have been shown to be related to criminality, though the strength of that relationship differs depending on the extent and seriousness of the crime committed.

Summary

Half of those who are registered for an offense before their 27th year have committed their first offense before the age of 18. If an individual has not committed an offense during his youth, there is only a relatively small probability that he will commit a first offense thereafter.

This conclusion only holds for males, however. The likelihood of a male committing a first offense before age 20 is three times higher than between the ages of 20 to 24. For women, the probability of committing a first offense is the same in both age groups. The relationship between age and criminal onset thus seems to differ by gender. These relationships are reminiscent of those found in criminal participation, both in the raw influence of gender and in that gender differences are largest among the very young and diminish somewhat with age.

It is often assumed that early onset as opposed to late onset results in a long, extensive, and serious criminal career. Such an unambiguous relation cannot be shown in this study. Nonetheless, the 15-year-old first-time offenders are more likely to have an extensive criminal career than those who commit their first offense later. Yet a higher age at onset does not systematically differentiate between offenders exhibiting different levels of persistence. Several of the study's analyses further point to the age at the time of the crime as having greater importance than the age at onset for the extent of future criminality. The fact that several previous studies have

found a clear relation between age at onset and persistence in a criminal career is presumably because age at the time of the crime has not been taken into consideration (Farrington and Wikström, 1992; Tolan, 1987; see also Blumstein, Cohen, Roth, and Visher, 1986, pp. 72 ff.).

In addition to studies that concentrate on the relation between time of onset and criminal persistence, several studies have considered the relation between behavioral problems in childhood and crime in later life. This issue differs significantly from that first mentioned. The question is trivial since it is to be expected that individuals who have experienced difficulties early in life will have a greater risk of future problems than those who have enjoyed a more tranquil upbringing. It is, however, such statements that easily lead to overinterpretation, as they seem to confirm many people's impression of a direct and certain connection between problems in childhood and those in later life. The predictability is far from 100% (Loeber, 1987). Yet those who fail to fulfill the expectations are invisible in retrospective analysis.

Recidivism and Duration of the Criminal Career

THE TIME between the first and last criminal act represents the duration of the criminal career. Instead of measuring the total duration, studies such as this – which concern a limited time period – consider *the length of the residual career*. This shows for how long the individual can be expected to be criminally active, assuming the individual is so at present.

Duration presupposes recidivism. If not, the duration would be 0. Offenders exhibiting a criminal career with a duration of 0 are in fact a very significant group. The characteristics of this group will therefore be examined separately when compared to the repeat offenders.

Whereas measurement of duration indicates *how long* an individual is criminally active, recidivism indicates *how many* have returned to commit new offenses. Information concerning recidivism hence complements that about duration. Both are therefore included in the current chapter in order to render a better comparison to traditional recidivism studies.

Both the common crime statistics and the measurements of prevalence show that crime decreases very quickly with age, and that there are very few active offenders among elderly subjects. One of the questions to be examined here is whether this reflects a career's duration, or whether it is crime frequency that primarily influences the age distribution. The duration of the career will also be studied in relation to gender and employment status.

Measurement of Duration

Relatively few studies of the duration of the career exist. This is probably due to data limitations and difficulties. To measure the duration of a criminal

career in principle requires that one have information about the offender until his or her death. In reality, prospective, longitudinal studies, on which much career research is based, will rarely cover more than a 20-year period and typically less. This clearly limits the ability to perform a comprehensive measurement of the duration of a criminal career.

Farrington's longitudinal study of a London cohort includes a measure of the duration of the career over a relatively long period. Beginning at age 10 (the minimum age of criminal responsibility), the study followed subjects for 30 years through their 40th birthday (Farrington, Lambert, and West, 1998; see also Farrington, Gallagher, Morley, Ledger, and West, 1988). Long-term measurements are also available in some other longitudinal studies (see, for example, the Gluecks' Unraveling Delinquency study, which contains prospective self-report and official record data for an 18-year period [Glueck and Glueck, 1968]; Shannon's Racine Cohort Study, which contains retrospective self-report and official record data for a 30-year period [Shannon et al., 1988]; Filio, Tracy, and Wolfgang's 1958 Philadelphia Birth Cohort study, which contains retrospective official record data for a 20-year period [Tracy and Kempf-Leonard, 1996]; and Moffitt's [Dunedin, NZ] Multi-disciplinary Health and Development study, which contains prospective self-reports and official record data over a 26-year period [Wright et al., 1999]).

Information on criminal career duration could be derived retrospectively from official record data, but no such study is currently known to exist. Instead of direct measurements, several studies of the duration of careers use methods of estimation based on survival models and the probability of recidivism. The duration of a criminal career can thereby be estimated from information about a relatively brief period in the life of the offender (see, for example, Rhodes, 1989; Blumstein, Cohen, and Hsieh, 1982). These studies do not measure the total duration, but *the duration of the residual career*.

Duration, measured as the time between the criminal onset and the last registered offense in the study period, was indirectly discussed in Chapter 9, as Figure 9.6 indicated the age at the last offense in relation to the age at onset. Duration is indicated by the length of time between these two points. More on this follows.

It is primarily the length of the residual career that will be examined here. Since it is a direct measure, the results are limited by the length of the study period. Thus, the measure is truncated and does not provide information about how long the career actually lasts. For that purpose the study period is too short. Still, the measure can be assumed to indicate the relation between duration on the one hand, and age, gender, and employment status on the other.

In this study, duration is measured via the difference in time between the first and the last offense for those who were registered for an offense in 1980.¹ This includes a total of 5,331 individuals. The duration of the residual career is measured for this total group, and subsample analyses are performed for those who have committed more than one offense in the period 1980–91. The last mentioned group includes 3,658 individuals (just over two-thirds of those registered for an offense in 1980). The first analysis shows the duration of the residual criminal career regardless of whether it is 0 or not. The second analysis examines duration in only those who have more than one offense during the study period.

It can be argued that the measure of duration should only include those individuals who have a residual career with a duration greater than 0. It has been decided to perform both types of analyses, however, because most other studies presumably² include all offenders, and because the difference between groups indicates the importance of the individual crime frequency for duration.

Since the duration measurement starts 01.01.1980 and ends 12.31.1991, the duration of the criminal career can be measured for only 12 years by this method.

The fact that just over one-third of those who committed offenses in 1980 were still criminally active after 1986 (that is, within the last five years of the study period) emphasizes the limitations of this 12-year analysis. Furthermore, a calculation based on the onset data shows that almost one-fifth of those who committed their first offense before age 25 were still criminally active in the last two years of the study period. It must therefore be assumed that many of those included in the measure continue to offend after the end of the study period.

Single-Registration Offenders

The discussion will begin with those offenders who have the shortest criminal careers, the *single-registration offenders*, for whom the first and last offense are identical. This group is important because it presumably represents the modal category, as indicated in Chapter 8.

Single-registration offenders are defined as those who are registered for only a single offense during the study period. The size of this group is exaggerated, given the truncation of the data: There will be some who are

¹ The year 1980 is chosen for the purpose of measuring the relation between duration and employment status since this is the first year that employment status was electronically registered.

² It is not clear from the studies.

registered for offenses before or after the study period. Most of those who recidivate do so shortly after a sanction, as shown in Figure 15.1. The number of those herein called "single-registration offenders," but who are or who will be registered for more offenses is thus limited.³ It is still highly probable that this is either the individual's first or last offense.⁴ All in all, 25,245, or 57% of the total study sample, are single-registration offenders according to the definition employed.

Single-registration offenders are portrayed in Table 10.1 as a percentage of the total number of individuals who are registered for different types of offenses. It should be noted that recidivists are registered for offenses in more than one category and thereby minimize the percentage of single-registration offenders in the separate categories.

Single-registration offenders are very unevenly distributed over types of offenses. The largest percentage of single-registration offending is in the traffic code area: 43%. It could be expected that there would be considerably more single-registration offenders with trivial traffic offenses as compared to those convicted for driving while intoxicated. The difference in the number of single-registration offenders within these two types of offenses is, however, rather small.

Sixteen percent of the single-registration offenders have committed penal code offenses. This relatively high percentage is due to the number of such offenders who shoplift. Almost half of those who have committed shoplifting are never registered for another offense. If this group is excluded from the calculation, only 9% of the property offenders will be single-registration offenders. The smallest number of single-registration offenders is found among those property offenders who commit burglary or car theft. This is not unexpected as other analyses have isolated burglary as an especially strong indicator of an extensive criminal career (Kvvsgaard, 1995b). More single-registration offenders could be expected among receivers of stolen property, since this is a crime that many otherwise law-abiding citizens are likely to come into contact with. If they do, relatively few are detected.

³ It would be possible to define the group of single-registration offenders with greater certainty, for example, by including only those single-registration offenders who are registered for crime within the period 01.01.1981 until 12.31.1989. This has not been done, however, for practical reasons and a desire to utilize the full extent of the data.

⁴ As mentioned in Chapter 5, there is high correspondence between the types of crime committed by single-registration offenders in the total population and those in the onset data, as illustrated by Table 5.2. This suggests that the majority of the individuals here defined as single-registration offenders are, in fact, just that. Furthermore, a comparison of age and gender distributions has been done in relation to offenders registered for an offense in 1980 but not later. The age and gender distribution of this group, which is known not to have committed a new crime for 12 years, corresponds well to that of the single-registration offenders, as discussed later in this chapter.

Table 10.1. *Single-registration offenders as a percentage of all offenders, by type of offense*

	Percent
Penal law offenses	16
Sexual offenses	17
Violent offenses	11
<i>Homicide</i>	32
<i>Assault</i>	13
<i>Aggravated assault</i>	12
<i>Theft</i>	7
Property offenses	17
<i>Burglary</i>	5
<i>Shoplifting</i>	47
<i>Other theft</i>	12
<i>Joy riding and auto theft</i>	8
<i>Fraud</i>	17
<i>Handling/receiving stolen property</i>	11
<i>Robbery</i>	14
<i>Vandalism</i>	13
Other penal law offenses	10
<i>Drug offenses</i>	7
Traffic law offenses	43
<i>Drunk driving</i>	36
<i>Vehicle defect offenses</i>	44
Special laws	24
Firearms Act	14
Euphoriants Act	15

Neither is it unexpected that few single-registration offenders are among those who commit violent crimes, since it has also been shown that individuals who commit violence typically also commit many other forms of crime (Kyvsgaard, 1995b).

Figure 10.1 illustrates the difference between single-registration offenders and repeat offenders in another way, as it shows the seriousness of the offense. Seriousness is based on the sentencing options given in the law for a particular offense.⁵ It is clear that the single-registration offenders on average commit less serious crimes than do repeat offenders. Clear differences

⁵ See more about this scale in Chapter 13 on escalation. In Figure 10.1, the scale values 2 and 3 are combined.

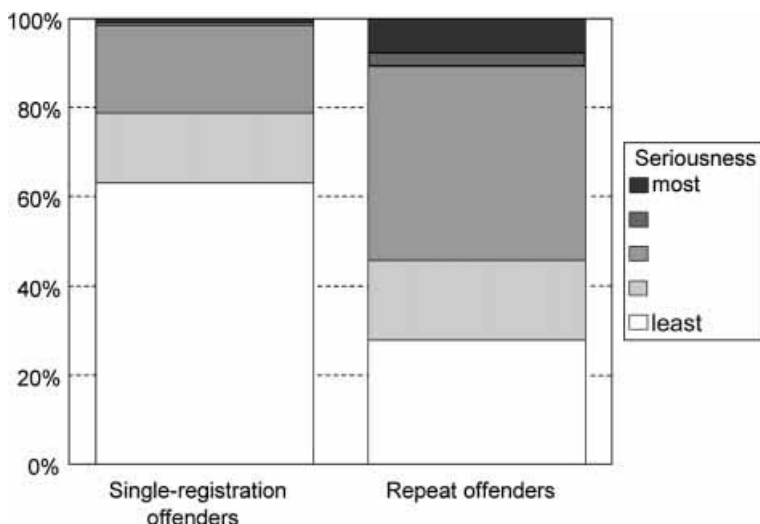


Figure 10.1. Crime among single-registration offenders and repeat offenders, by seriousness.

also appear when other measures of seriousness are used. An American study found that more serious crime is committed by those who commit more than one offense (Rojek and Erickson, 1982).

Single-registration offenders also differ from repeat offenders in terms of age. More than half of the repeat offenders are under the age of 25 at the time of the crime, but this is true for only one-third of the single-registration offenders, as shown in Figure 10.2. More than one-third of the single-registration offenders are 40 years of age⁶ or older, as opposed to just over one-tenth of the repeat offenders.

Not surprisingly, there also appear to be great differences in the gender distribution between single-registration offenders and repeat offenders. Out of those who offend only once, 24% are women, whereas only 11% of the repeat offenders are women. Thus, of the women registered for crime, almost three-fourths (73%) are single-registration offenders, as opposed to just over half (53%) of the male offenders.

There are also great differences between single-registration and repeat offenders in their connections to the job market. Figure 10.3 shows that almost three-fourths of the single-registration offenders were employed during the year in which they committed their offense; this was true for fewer than half

⁶ Calculations regarding the number of older first offenders likely to be included in the data indicate that the majority of older single-registration offenders are, in fact, first offenders.

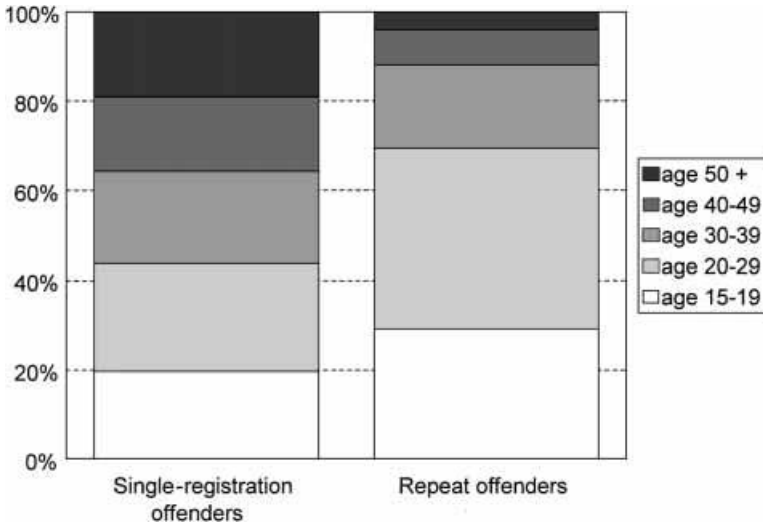


Figure 10.2. Age at the time of the crime for single-registration offenders and repeat offenders.

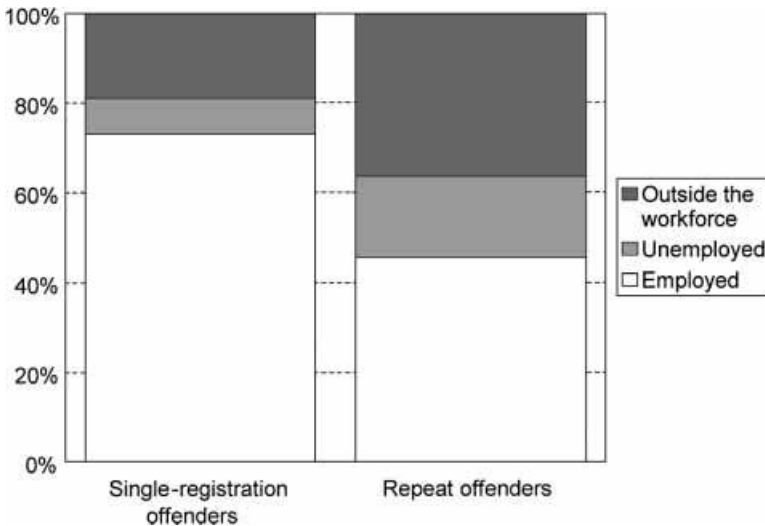


Figure 10.3. Employment status of single-registration offenders and repeat offenders.

of the repeat offenders, almost one-fifth of whom were registered as unemployed, and just over one-third of whom did not belong to the workforce. Unlike the older group of single-registration offenders, this latter group cannot claim retirement as a reason for exclusion from the labor market.

In conclusion, the single-registration offenders are older, more often female, more likely to be employed, and commit less serious offenses than the repeat offenders. Single-registration offenders are thus characterized by both less serious criminality and fewer employment problems.

Recidivism

The number of recidivating offenders is represented by the antithesis of single-registration offending. This means that *43% of the individuals* in the sample *are registered for more than one offense*. As discussed earlier, this is a minimum number, since some of the so-called single-registration offenders may in fact be recidivists.

Figure 10.4, which shows the number of first offenders and recidivating offenders distributed by age at the time of the crime, indicates that after the age of 17 the majority of registered offenders are recidivists.⁷ Similar results have been found in a Swedish study (Wikström, 1990).

If the focus is offenses (that is, acts rather than offenders) the relation between single-registration offending and recidivism becomes somewhat different. Only 43% of the study's registered offenders are registered more than once, but this group accounts for 86% of all offenses included in the study. The percentage of those acts that can technically be considered as *recidivism* (crime committed by individuals who have already committed an offense) is, however, somewhat less, since the first offense committed by the recidivating offender must be excluded. The elimination of both single-registration and first-time offenses still leaves 75% of the study's offenses. This means that *three-fourths of the registered crime in Denmark can be characterized as recidivism*. Quantitatively, recidivism is thus the most significant crime problem in Denmark. The same is true qualitatively, since the crime committed by recidivists is more serious than the crime committed by single-registration offenders, as shown in Figure 10.1.

That the recidivists' share of all crime is so big reflects the fact that a minor group of offenders recidivate repeatedly. If the recidivism percentage were calculated based on the number of prior offenses, and without regard to the time between those offenses, it would be very high. As shown in Chapter 11 on desistance, 80% of those with ten or more prior criminal legal dispositions will recidivate.

⁷ This figure gives the immediate impression that the number of recidivists is somewhat higher than the aforementioned 43%. This is because the figure includes all offenders at the indicated ages at the time of the crime. Recidivists are therefore counted more than once.

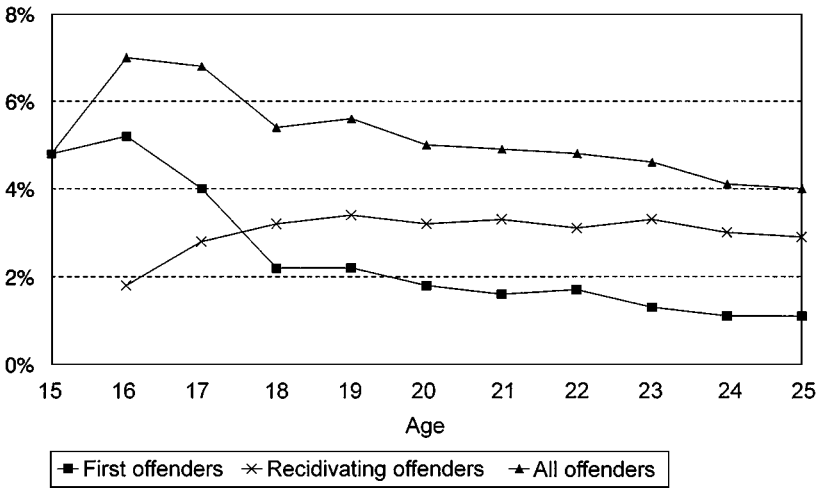


Figure 10.4. Percentage of first offenders and recidivating offenders in the onset data, by age at the time of the crime.

When the recidivism percentage is calculated as a whole and within a certain period, the picture becomes less dramatic. Employing the most common method used in this area, recidivism is here measured over a 2-year period. The measurement starts either at the date of the sentence (for the nonincarcerative sanctions) or at the date of release (for sanctions of confinement). Since the study includes information on the time of the crime, this is also used when measuring recidivism. In most analyses, recidivism is defined as a new criminal legal disposition of a certain severity within a given period of time. In this study, an individual is considered to have recidivated if a new offense of any type or severity is registered within the 2-year observation period. This criterion is broader than that used in other recidivism studies and should result in a higher rate of recidivism. However, in contrast to other studies, the current analysis includes all offenders regardless of the type of crime or disposition. This results in a lower recidivism rate, since traffic law violators and offenders receiving an order to pay a fine – categories normally excluded from recidivism studies – have a lower recidivism risk than offenders committing more severe offenses or receiving more serious sanctions.⁸

⁸ Recidivism is measured for each year (up to and including 1989) and the results in Table 10.2 show the average of these measurements. If an individual has several dispositions during a single year, the measure of recidivism is based on the first. This results in a recidivism rate that is 1 or 2% higher than would be obtained if the measure were based on the last case of the year.

Table 10.2. *Recidivism by type of offense*

Category of Offense	Recidivism Rate, Percent
Sexual offenses	30
Violent offenses	37
Property offenses	41
Other penal code offenses	28
All penal law offenses	40
Traffic law offenses	25
Special laws	35

Table 10.2 confirms what was shown by Figure 10.1, that recidivism is especially prevalent among those who commit more serious forms of crime. Forty percent of penal code violators recidivate as compared to only 25% of traffic code violators.

Altogether, 31% of the offenders are registered for another offense within two years of the latest criminal legal disposition or confinement. These numbers are somewhat lower than those often found in the public debate, primarily because the recidivism data generally cited in the mass media are typically based on the most criminally active offenders (that is, those previously sentenced to incarceration). There is also a tendency to overdramatize recidivism rates. Based on all offenders and disposition types,⁹ it turns out that less than one-third of the offenders recidivate within 2 years. The discussion of duration, which follows, should be considered within this context.

Duration and Age

Duration is often linked to the time of onset. Farrington's longitudinal Cambridge Study of a London cohort shows that those for whom onset begins at the age of 10 to 13 are, on average, criminally active for just under 10 years, whereas the period is just over 8 years for those who have started as 14- to 16-year-olds, and just under 3 years for those who start at the age of 17 to 20 (Farrington, 1992a). Project Metropolitan-Stockholm and a Canadian study have also noted a correspondence between career duration and age at onset (Blanc and Fréchette, 1989; Wikström, 1991).

⁹ With the limitations mentioned in Chapter 4.

The analyses performed in the present study on time of onset and continued crime indicate that the association of early onset with a longer criminal career is more likely because the individuals are younger at onset, rather than the possibility that early onset is a manifestation of stronger criminal tendencies. The parameters of both recidivism and career duration are thus linked more to age at the time of the crime than to age at onset. There is little indication that the criminal career persists through a later stage in life for those with early, as opposed to later onset.

Measurements which do not use the same period of observation for all offenders can easily give a false impression of the relation between time of onset and duration, because those who commit their first offense early are automatically observed for a longer time than those who commit their first offense later.

This is taken into account in the following analysis of the duration of the residual career, as the period of observation for all subjects begins in 1980 and ends in 1991. The analysis poses the following question: Given that an individual has committed an offense in 1980, how long will the individual remain criminally active?

Both curves in Figure 10.5 show that the duration of the residual career increases slightly in the youngest age groups, whereas it is fairly constant between the ages of 18 to 30. Duration decreases after age 30, especially for the measurement, which includes all offenders. Thus the number of offenders who have committed more than the one offense in 1980 decreases especially rapidly after age 30. For many of the older offenders, the length of the residual career is thus equal to 0.

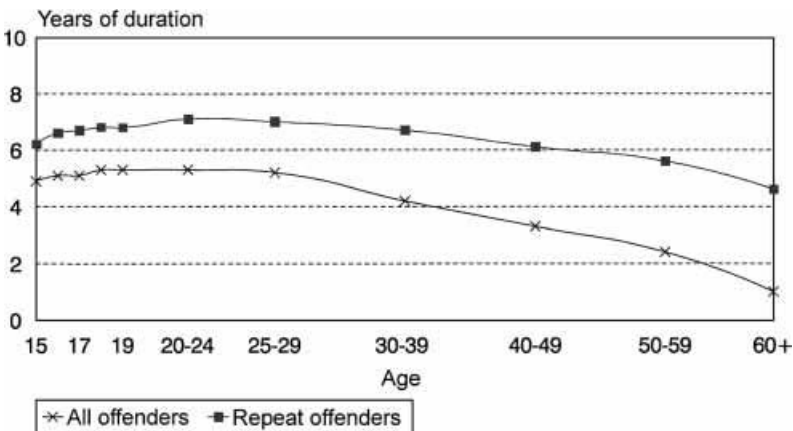


Figure 10.5. The duration of the residual career for all offenders and for repeat offenders, by age in 1980.

For those who commit more than one offense, the age variation in duration becomes relatively small. Not until the offenders are over age 50 does the length of the residual career become shorter than for the 15-year-olds.¹⁰

The difference between the two curves suggests that the age differences in the duration of the residual career are reduced with increased criminal activity.

Information about age at onset and continued crime also allows one to estimate how long the career has persisted prior to the measurement of the residual career. For the 20- to 24-year old age group it can be calculated that approximately 55% committed their first offense before the measurement of duration began. The majority of these – 60% – committed their first offense at the age of 15 or 16. Thus the criminal career, on average, has lasted approximately 3 years longer than the measurement of the length of the residual career indicates. Those offenders who commit two or more offenses at an older age must in particular be assumed to have had an even longer criminal career behind them. An individual who is criminally active¹¹ through the age of 20, 30, or 40 can thus be expected to have had a relatively lengthy criminal career.

An American study of the duration of the residual career shows that its length continues to increase at ages even higher than seen here. For those who commit their first offense as 18-year-olds,¹² it is estimated that the length of the residual career increases up until around the age of 30, after which it stabilizes until the age of 40, and then decreases relatively quickly (Blumstein, Cohen, and Hsieh, 1982).

Whether the relatively small differences in the lengths of the residual careers for those who commit more than one offense mean that younger and older recidivating offenders are equally criminally active is still open to interpretation. But this can be studied by comparing crime frequencies with duration for the different age groups.¹³

As shown in Figure 10.6, up until the age of 20 to 24,¹⁴ the average yearly crime frequency follows the same age curve as duration, but thereafter decreases faster. Middle-aged offenders exhibit a continued career that lasts

¹⁰ A similar pattern is seen when duration is calculated for penal code violators only, although their career is somewhat longer on average.

¹¹ "Criminally active" refers to individuals who have committed at least two offenses.

¹² This study is based on the age at onset for adult criminal careers. The existence of prior registrations for juvenile delinquency is not mentioned.

¹³ The method of calculation is a little different from the one used in calculating the individual crime frequency in Chapter 8, as the frequency here is based on an average of all the years of the residual career.

¹⁴ The crime frequency has been calculated as an average for the 15- to 19-year-olds, since arbitrary fluctuations occur between the separate age groups.

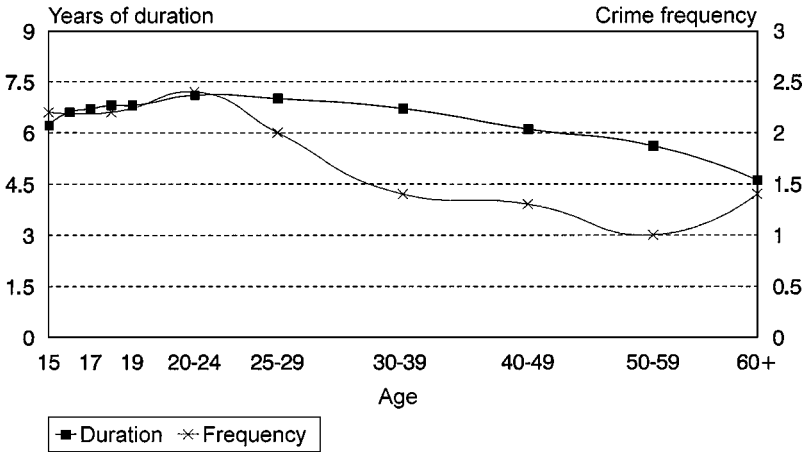


Figure 10.6. Years of duration and crime frequency for repeat offenders.

approximately as long as that of the very young, but they have a crime frequency considerably lower.¹⁵

Calculations show that the recidivism speed steadily decreases during the mid-20s. Long breaks between offenses are possible, especially among older offenders.

It can thus be concluded that the length of the residual criminal career varies relatively little by age among recidivating offenders, although crime frequency and recidivism speed vary. The duration of the criminal career is therefore not a very good indicator of the extent of the career.

Duration and Gender

A Swedish study shows that patterns in male criminal careers are more highly influenced by age than are patterns in female careers (Andersson, 1989). Similar results have been found in this study and in an earlier study by this author (Kyyvsgaard, 1989). Male offending is particularly prevalent during youth, whereas female participation in crime, as discussed in Chapter 7,

¹⁵ In a study based on data from Farrington's London cohort, a similar measure has been taken, as the length of the career for "frequent" offenders is compared to the length of the career of "occasional." It shows a correlation between crime frequency and duration, as the "frequents" have a longer criminal career than the "occasional." The difference is not very big however: 8.8 years compared to 7.4 years (Barnett, Blumstein, and Farrington, 1987; see also Farrington, 1992b). The fact that offenders over age 60 have a higher crime frequency than the 50-year-olds is probably caused by a single or a few very active offenders among this relatively small group of older subjects.

seems less dependent on age. The question remains whether differences exist between male and female career lengths, which amplify or reduce overall gender ratios in criminal involvement.

The duration of the residual career for *all* offenders in 1980 appears in all age groups to be higher for men than for women. The difference is greatest in age groups prior to age 25, those age groups where the difference in male and female prevalence is also greatest. The average length of the residual career is 4.8 years for men and 2.6 years for women.

This difference seems to reflect to a high degree the fact that a greater number of women than men commit only one offense. When the duration of the residual career is calculated only for those who have committed more than one offense, gender ratios decrease: 6.8 years as compared to 5.7 years. The remaining difference is still most prominent among the young. For the age groups over 24, the difference diminishes tremendously, and is totally absent for those over 40.¹⁶

As with the relation between age and the length of the residual career, there is also a relatively small gender difference in the length of the career among the more criminally active, but not among the less criminally active offenders.

Duration and Employment Status

Information about the relation between duration and employment status is not found in other studies. The following analysis is based on those who were between 20 and 49 years old in 1980, the age of most active employment. The result is shown in Figure 10.7.

Employed offenders have a shorter residual career than the unemployed, or those who do not belong to the workforce. Individuals who do not belong to the workforce, the chronically unemployed, have the longest residual duration.

As with age and gender, this figure shows that employment status becomes less predictive of career duration as criminal activity increases. Differences in the length of the residual career between those who are employed and the two unemployed groups are thus considerably smaller for the offenders who have committed at least two offenses than for the group of all offenders in 1980.

¹⁶ The fact that the total number of women in the different age categories becomes relatively low may be why possible patterns become less obvious. There are approximately fifty women in the 5-year age intervals up until age 40, whereafter their number decreases somewhat.

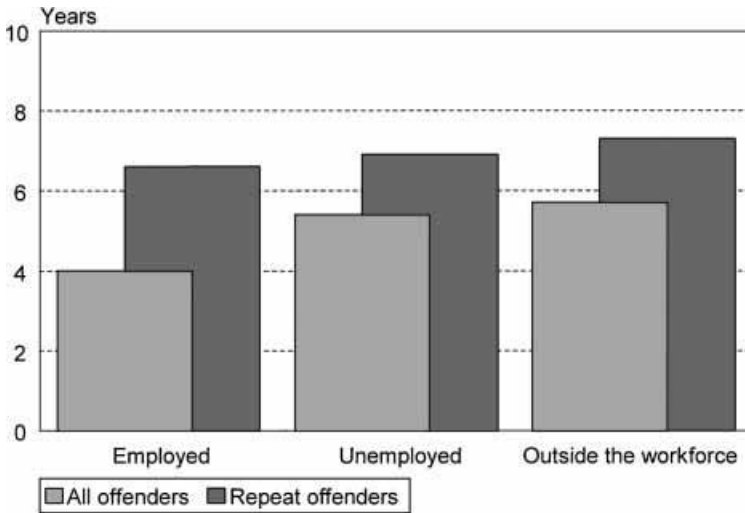


Figure 10.7. The duration of the residual career for all offenders and for repeat offenders, by 1980 employment status.

Summary

More than half the offenders have a criminal career of the duration 0 since they have been registered for only one offense during the 13-year study period. This group differs distinctly from those who have committed several offenses in that they are older, include more women, and are more likely to be employed. They also commit less serious offenses than the repeat offenders. This numerically significant group can therefore – based on both their social and criminal status – be said to present only a minor problem.

Repeat offenders, on the other hand, represent the main problem for the legal system and for society. Three-fourths of registered crime is committed by individuals who have already committed an initial offense. An even larger proportion of serious crime becomes recidivism.

The duration of the residual career is – as a minimum measure – just under 5 years for those who committed one offense in 1980. On average almost 5 years pass before they are registered for their last offense (in the study period). When single-registration offenders are excluded from the calculation, the length of the residual career is just under 7 years.

The length of the residual career follows a pattern seen in preceding chapters. It is the old offenders, the females, and the employed who have the shortest career ahead of them, whereas the young, the male, and the chronically unemployed have the longest.

This difference is reduced for those offenders who have committed more than one offense. Though relatively few in number, the elderly, the female, and the employed recidivists have almost as long a remaining career as the young, the male, and the unemployed.

Compared to discussions in the previous chapters, we show here that gender, age, and social conditions have significant importance for participation in, and the intensity of, criminal careers. However, when the analysis is based only on those offenders who have committed more than one offense and hence have a career of some duration, these variables exhibit relatively little influence on the duration of the career (time between the first and the last offense).

Desistance from the Criminal Career

A CRIMINAL CAREER ceases when an individual commits his or her last offense. Ideally, desistance should not be studied until the offender has died.

In studies such as this, which concern a relatively brief period, the possibilities for studying the desistance of the criminal career are limited not only by the length of the study period, but also by the fact that only a part of this period can be used to focus on desistance, since desistance presupposes a prior activity. The study period must therefore be divided into an activity period and a desistance period.

Since the measurement of desistance theoretically makes even greater demands on the length of the study period than that of duration, relatively few studies of this area exist (see Farrington, 1986).

Measuring Desistance

Desistance is here defined by *the absence of registered crime for at least 5 years*. Given the parameters of the current study, desistance requires that an offender commit no new offenses after 12.31.1986 and until the end of the study period.

Five years of criminal inactivity strongly suggest that the individual has truly ceased to commit crime. Recidivism studies with long periods of observation show that almost all offenders who have not committed new crimes within 5 years of their latest disposition do not commit crime thereafter (Hood and Sparks, 1970; see also Figure 15.1). As shown in Chapter 8 on frequency, recidivism occurs in less than 3% of the cases after cessation of more than 5 years.

Several other studies have used a 5-year period when measuring desistance (see, for example, Chylicki, 1992; Rhodes, 1989), but some have used significantly shorter periods (see, for example, Feld and Straus, 1989, who define desistance as 1 year without crime). A comparative study of criminal careers in London and Stockholm does not even require a certain period without registered crime to classify desistance, but rather defines it as the last offense in the study period (Farrington and Wikström, 1992). Since the study ends at the subjects' 25th year, it is likely that the estimated age of desistance is too low.

Instead of measuring desistance directly, estimates can be made which allow for a shorter study period. Some studies estimate desistance solely on the basis of age and number of previous offenses (Barnett, Blumstein, and Farrington, 1987; Barnett, Blumstein, and Farrington, 1989).

The present study uses only direct measures of desistance. We examine the relation between desistance and number of prior dispositions, as well as the relation between desistance and gender, age, and employment status.

As mentioned, desistance presupposes prior activity. There are reasons to assume that the probability of desistance from crime will depend in part on the type and extent of one's previous career, and that the number of desisted offenders identified will depend on the breadth of the desistance criterion used. Three different criteria for activity and desistance are utilized here: (1) activity is defined by at least *one offense*—regardless of type—in the period before desistance, and desistance defined by *the absence of any new offenses of any type thereafter*; (2) activity is defined by at least *one penal code violation* before desistance, and desistance defined by *the absence of additional penal code violations thereafter* (but perhaps other forms of offenses); and (3) activity is defined by at least *two penal code violations* before desistance, and desistance also defined by *the absence of additional penal code violations thereafter*.

Desistance and Prior Record

It is shown in Chapter 8 that many offenders cease to commit crime after having committed only one offense and that there is another large group of subjects who commit only two or three offenses. The proportion of offenders who commit several offenses decreases with the number of offenses, which conversely means that the proportion of those who cease to commit crime also decreases (see Farrington, 1992b). This correlation between prior and continued crime is more closely examined below.

Both a Swedish and an American study have shown that the probability of recidivism stabilizes after the first 4 or 5 dispositions (Andersson, 1989;

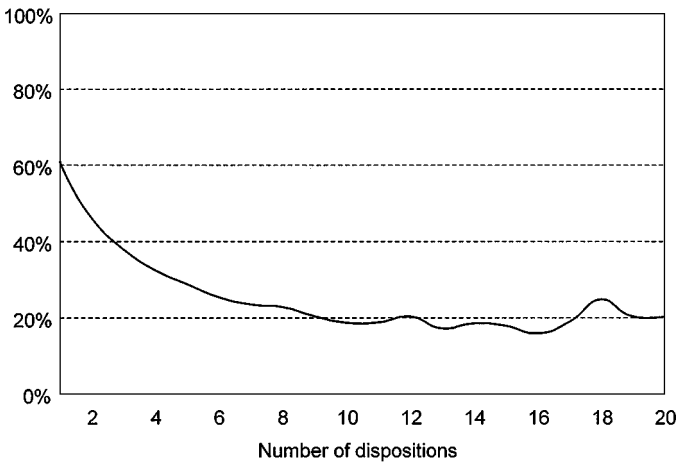


Figure 11.1. Desistance rate by number of prior dispositions.

Blumstein, Farrington, and Moitra, 1985). The proportion that recidivate thereafter remains fairly constant, at around 80% (see Barnett, Blumstein, and Farrington, 1987; Barnett, Blumstein, and Farrington, 1989; and the review in Blumstein, Cohen, Roth, and Visser, 1986, p. 90).

Sixty percent desist from committing crime after the first criminal legal disposition. Contrary to what has been found in other studies (Tracy and Kempf-Leonard, 1996; Farrington, Lambert, and West, 1998), this study shows that discontinuity is more common than continuity.

Of those who continue to commit crime, approximately 50% desist after the second disposition. The number who cease to commit crime thereafter continues to decrease, but stabilizes after approximately ten dispositions, as shown in Figure 11.1. About 20% of those who have received ten or more dispositions cease to commit crime. This means that for each new disposition thereafter, approximately one-fifth stop committing crime. Compared with the aforementioned Swedish and American studies, the desistance rate stabilizes at the same level, but after more dispositions.

This difference, as well as the difference in the extent of discontinuity found between this and other studies, may be caused by this study's inclusion of a broad range of dispositions and of some types of traffic law offenses normally not included in criminal career studies. Recidivism is thus clearly lower after less serious offenses (such as traffic code offenses) and less severe sanctions than it is after more serious crimes and more severe sentences. Differences in the length of the follow-up period during which

desistance is measured might also influence the results. Furthermore, it should be emphasized that unlike most other studies, this study includes very old offenders who have a high desistance rate.

The curve in Figure 11.1 does not account for the time between dispositions. Therefore, conclusions concerning the recidivism rate cannot be made, since such calculations require measurement within a certain time frame. What can be concluded is that individuals with only one or a few criminal legal dispositions have a greater probability of desisting than individuals with a high number of dispositions.

Age and Desistance

Recidivism and desistance are complementary concepts. If the risk for continued crime is greatest among the young, it should therefore be expected that the probability of desistance is lowest for this age group.

However, Figure 11.2 provides a different picture. It shows that for all criteria, *more* 15- to 19-year-olds than 20- to 29-year-olds desist. The number of desisters is lowest among the 25- to 29-year-olds, whereafter it again increases. Only among those over 40 is the desistance rate higher than among the very young.

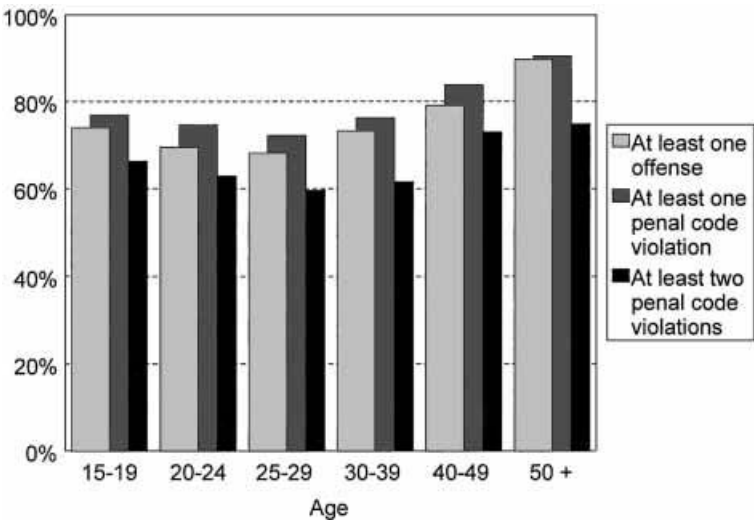


Figure 11.2. Age-specific desistance rates, distributed over the three desistance criteria.

The comparatively low desistance rate among young offenders reflects the fact that desistance is measured over a relatively long period of time and thereby excludes some of the less frequent but still active older criminals. Concurrent with much of the previous desistance literature, as well as the current findings on age and criminal participation, Figures 11.1 and 11.2 illustrate that most offenders desist very quickly after one or two crimes of adolescent rebellion. These are the offenders that Moffitt (1993) has referred to as “adolescence-limiteds.” Those who persist with criminal activity into their 20s are presumably more deeply involved in criminal repertoires, behavioral patterns that become increasingly difficult to alter. Thus, while cumulative desistance continues to grow, the rate of desistance slows among the 20- to 29-year-olds. By the 30s, however, marriage, childbearing, and other age-related stabilizing forces push to accelerate the desistance rate which then continues to increase with advancing age. Statistical analyses show that the desistance rate among 30- to 39-year-olds is equal to or slightly lower than that of 15- to 19-year-olds. A criminally active individual in his or her 30s has no greater probability of desistance than a very young offender.

Figure 11.2 also shows that desistance is more common than persistence regardless of age group. The overall desistance rate (at any age) is 75% according to criterion 1, 77% according to criterion 2, and 64% according to criterion 3.

That the number who desist is slightly higher according to criterion 2 than criterion 1 reflects the fact that violations of the traffic code and other special codes are included as recidivism in the first, but not the second, criterion. Figure 11.2 indicates that some of those who desist from committing penal code violations still commit other offenses.

As expected, desistance rates are lower among those with more active criminal histories (criterion 3). The difference varies somewhat by age, as more active criminal histories are associated with lower probabilities of desistance especially among older offenders. Among the young, criminal history appears to have a significantly lesser influence on the probability of desistance.¹

Statistical analyses show that criminal history, as measured by comparing desistance criteria 2 and 3, has importance for the probability of desistance for all age groups. The analyses further show that desistance rates do not

¹ It is possible that an analysis in which prior criminal history was held constant would show a different picture. The explanation for the age-related differences found may therefore be that the young – within the given limits – consistently have fewer prior offenses than the older offenders.

significantly differ for those in the beginning, as opposed to the end, of their 20s. When these two age groups are considered as one, significant differences appear among the separate age categories, as there is a significantly lower rate of desistance among those in their 20s as compared to those in their teens or their 30s. The exception are the most criminally active, the 30- to 39-year-olds who have committed at least two penal code offenses. They have no greater probability of desisting than the 20- to 29-year-olds, and the most active oldest offenders exhibit desistance rates similar to those of the 40- to 49-year-olds. More active criminal histories thus decrease the likelihood of desistance among older offenders.

Gender and Desistance

Only a few studies exist concerning gender differences in desistance. An American study focusing on the subject concludes that whereas prior criminality affects the desistance rate of both men and women, its effect is greater for women than for men (Uggen and Kruttschnitt, 1998).

A Swedish study shows that the recidivism rate among males is higher than that of females only in the beginning of the criminal career. After the second conviction, male and female recidivism rates are nearly equal (Andersson, 1989). Thus, for the small group of women who persist in crime there is no difference between their rate of desistance and that of the males after a given number of offenses.

As opposed to the Swedish study, Figure 11.3 shows that regardless of criminal history, female desistance rates are always higher than those of males. The larger gender-specific differences in desistance, which are generated by criterion 1 as compared to the other criteria, reflect the fact that women relatively seldom violate the traffic code. For the two remaining criteria, gender-specific desistance rates are similar. This study thus fails to confirm the Swedish study finding that a more active criminal history reduces the difference between male and female desistance rates. It is possible, however, that the Swedish pattern would emerge with analysis of more divergent histories of criminal involvement.

Statistical analyses confirm that desistance is related to both gender and criminal history. At the same time it should be emphasized that gender differences in this area are smaller than in many of the other areas studied. The tendency toward desistance therefore contributes only slightly to overall gender differences in criminal involvement.

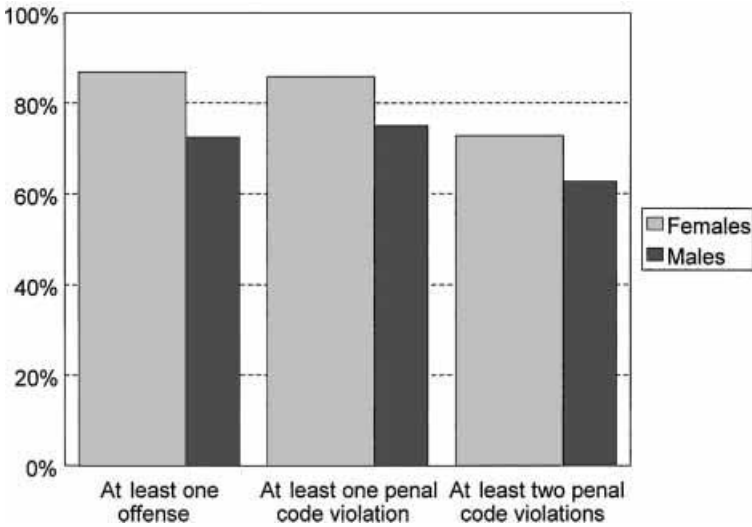


Figure 11.3. Desistance by gender, distributed over the three desistance criteria.

Employment Status and Desistance

Economic analyses suggest that the economic alternatives available to the offender influence his or her tendency to persist in a criminal career (Phillips and Votey, 1987). That is, offenders with good income potential are more likely to desist than those with poorer income potential.

Another study shows that apart from age, prior success at avoiding detection, and expectations of the proceeds from crime, the offender’s level of education has importance for the likelihood of desistance (Shover and Thompson, 1992).

In the current study, the relation between employment status and desistance is examined only for the most labor-active age group: those offenders who were between 20 and 59 years of age at the time of their last offense before desistance.

Statistical analyses show that employment status – for all three criteria – is clearly related to desistance from the criminal career. Individuals who are employed have a greater probability of desisting from crime than either the temporarily or the chronically unemployed. The chronically unemployed have the poorest probability of desisting from criminal involvement.

At the same time, the analyses show that criminal history – again measured by comparing desistance after criteria 2 and 3 – is also of importance for

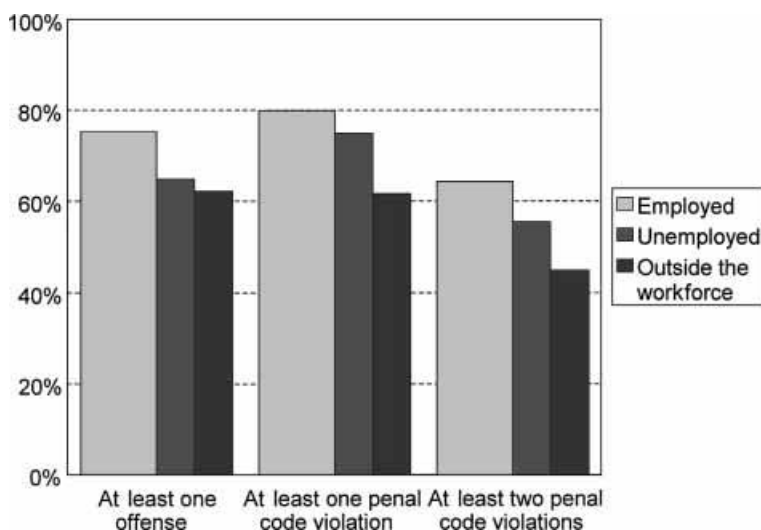


Figure 11.4. Desistance rates by employment status, distributed over the three desistance criteria.

desistance. Desistance rates are lower for those with more extensive criminal histories whether they are employed or not.

Summary

The majority of the individuals who commit an offense (regardless of age, gender, or employment status) will not commit another offense during the succeeding 5 years. Since very few recidivate after a break of more than 5 years, it seems safe to conclude that desistance from the criminal career is more common than continued crime.

The probability of an offender desisting from crime is associated with the number and types of prior crimes. The more extensive the criminal history, the lower the probability of desistance. This goes for young as well as for old, for male as well as for female, and for working as well as for temporarily or chronically unemployed offenders.

However, these variables – age, gender, and employment status – can and do influence the probability of desistance.

The relationship between the age of the offender and the probability of desistance might be expected to be directly proportional so that desistance increases with increasing age. This turns out not to be the case as it is the

youngest and oldest offenders (not those in the middle) whose desistance rates are highest. The desistance rate of the youngest offenders is surpassed only by that of the middle-aged (that is, offenders who have reached the age of 40).

Male and female desistance rates exhibit the expected relationship, as the desistance rate of women is higher than that of men. Similarly, the connection between employment status and desistance is as could be expected. The desistance rate is lowest among the chronically unemployed and highest among employed offenders.

Seen in relation to prevalence, this means that the desistance rate contributes to differences in crime prevalence among males and females and among the employed and the unemployed. The U-shaped relation between age and desistance, however, will tend to neutralize the differences in crime prevalence among age groups.

Specialization or Versatility in the Types of Offenses

SPECIALIZATION refers to the tendency to commit the same type of crime. The expectation that the development of the criminal career involves specialization is nurtured by criminological research, the mass media, and everyday language.

Much popular crime literature concerns offenders who commit only a single murder, for example, in the novels of Simenon and Agatha Christie. In these stories, the offender is typically unknown to the police beforehand, as there is no long criminal career before the murder to indicate a general tendency toward criminality. Some crime novels, such as Maurice Leblanc's stories about Arsene Lupin, portray the offender as a specialist, an individual who commits the same offense several times in the same way (Arnold and Schmidt, 1978).

The concept of the specialized offender presumably also arises from some of the more notorious "true crime" cases, including those of Jack the Ripper, Henri Désiré Ladru, and John Reginald Christie, who all committed exactly the same crime in the same way multiple times.

Belief in the existence of specialized offenders is further reflected in everyday language, especially in the crime-related news of the mass media. Linguistic simplifications alone do not give rise to expressions such as "the burglar," "the sex offender," and "the violent offender." The identification of an individual through an offense indicates both social rejection and an expectation that it is neither the first nor will it be the last time the individual has committed a particular type of crime.¹

¹ This expectation is presumably also common among professionals. An American criminologist recalled that when he presented the results of a review of thirty-three studies which

As mentioned in Chapter 1, some of the earliest criminological studies based on life histories also give the impression of offenders developing skills and specialization in a single or few forms of crime. This is especially true of Sutherland's book, *The Professional Thief* (1937), in which offenders are portrayed as specialists in, for example, pickpocketing, confidence tricks, or shoplifting. The particular form of crime the individual offender chooses to specialize in is assumed to depend on skill. Further described are the training and practice that lead to a complete education in the crime specialty. There is thus a clear and direct parallel to ordinary professional education and training.

Newer studies also create the impression of specialization. Crime prevention research that seeks to obtain knowledge about *modus operandi* and situational factors through interviews with offenders who have repeatedly engaged in a certain type of crime will almost unavoidably point to specialization (see, for example, Light, Nee, and Ingham, 1993). Such findings are conditioned by the selection of offenders. The impression of specialization can be further accentuated by statements from the offenders themselves, since many apparently consider themselves specialists, even when their criminal records include many different kinds of offenses.

The opposite of specialization is versatility in type of offending. True versatility would suggest that the criminal career is characterized by a purely random mix of offenses. If the criminal career is characterized by versatility as opposed to specialization, an increased variation in the types of offenses would be expected with an increased number of offenses. This question is examined here.

Measurement of Specialization

Most modern studies of specialization utilize quantitative data. The results obtained are therefore highly dependent on the categorization of offenses used and the methods of measurement and calculation. These issues are discussed in general, and the methods chosen for the current analysis outlined specifically.

Categorization of Offenses. The results from studies of specialization first and foremost depend on the breadth of the applied categories. Is it a case of specialization if an individual only commits property offenses, or

together showed little evidence of specialization, a prominent criminologist reacted by exclaiming that the findings were "wrong, simply and obviously wrong" – without presenting any evidence for his opinion (Klein, 1984, p. 191).

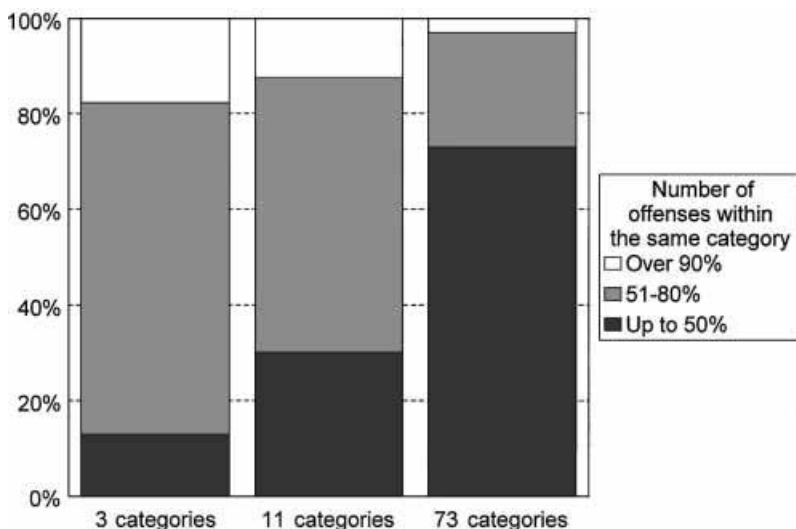


Figure 12.1. Number of offenses within the same category for individuals who have committed at least nine offenses, distributed over number of categories.

does it require that the individual commit only a certain form of property offense?

In spite of the obvious importance of the number and breadth of the categories employed, this question is referred to remarkably rarely in the specialization research. This is not because the American research, which dominates the field, is always based on the same categorizations. To the contrary, the categorizations vary widely from study to study. Of the studies known to this author, the number of categories ranges from three (Brennan, Mednick, and John, 1989) to twenty-one (Farrington, Snyder, and Finnegan, 1988). However, only a small number of studies uses more than ten categories. The majority use five to eight (see, for example, Blumstein and Cohen, 1979; Gottfredson and Gottfredson, 1994; Kempf, 1987; Smith and Smith, 1984).

Figure 12.1, which is based on data from the current study, clearly illustrates that evidence of specialization is dependent on the breadth of the categories defined. If only three categories are applied, then almost 90% of those offenders who have committed at least nine offenses have committed more than half within the same category. If seventy-three categories are used, it is only about one-fourth the offenders for whom more than half of their offenses have fallen within the same category.

In most of the analyses in this study, offenses are divided into eleven categories. This represents a relatively broad categorization, and suggests

that recidivism to offenses within the same category may only sometimes reflect recidivism to precisely the same type of crime. The limited number of categories has been chosen partly for the sake of clarity, and partly so that the range corresponds to that known from other studies. The categorization is done with consideration both to the number and the kinds of cases. In some instances very different offense types are gathered into a single category, as they are too few to warrant individual analysis.

The eleven categories have the following denominations and contents:

1. *Sexual crime*: This category includes not just all forms of sexual offenses but also arson. Arson is included here since it is too small a category to warrant separate examination, and since, like sexual offenses, it seems to be associated with a certain desire or need which cannot be satisfied through other forms of offending. It should be emphasized, however, that the decision to combine these types of offenses into a single category is not meant to suggest that there is otherwise any connection between the two types of crime.
2. *Violent crime*: This category includes all forms of violent offenses, as classified in the criminal statistics, as well as robbery, vandalism, and violations of the Firearms Act. This category therefore also includes cases of violence related to property offenses and destructive behavior against objects.
3. *Burglaries*: All forms of burglary.
4. *Simple thefts*: Thefts from cars, boats, etc., shoplifting, and other simple thefts as well as receiving stolen property.
5. *Theft for purposes of limited use*: Theft of all forms of vehicles and vessels for the purpose of limited use (for example, joy riding).
6. *Other property crimes*: All other property offenses, for example, forgery, embezzlement, and fraud.
7. *Narcotic crimes*: Narcotic crimes under the penal code (applying to "hard drugs") and the Euphoriants Act (applying to "soft drugs").
8. *Other penal code crimes*: A diverse assortment of crime including perjury, defamatory offenses, and violation of privacy.
9. *Driving while intoxicated*: Driving while intoxicated, as well as negligent homicide committed in connection with traffic accidents. Though not always associated with drunken driving, personal injuries stemming from traffic accidents are often alcohol-related.
10. *Other traffic violations*: All other traffic code violations.
11. *Violations of the special codes*: All violations of the special codes, which are not included elsewhere above (i.e., tax and duty laws, environmental laws, and the law on foreigners).

Table 12.1. *Number of transitions to the same category of offense, by time between offenses*

	1 Month or Less, Percent	1-12 Months, Percent	12 Months+, Percent
Penal law offenses			
Sexual offenses	84	63	39
Violent offenses	43	23	15
Property offenses	89	73	51
Other penal law offenses	47	37	10
Traffic law offenses			
Drunk driving	16	27	33
Vehicle defect offenses	36	45	19
Other traffic law violations	49	53	55
Special laws			
Euphoriant Act	42	37	34
Firearms Act	23	11	8
Other special acts	55	32	32

Time between Offenses. There is reason to assume that those who commit offenses within very brief intervals will more often repeat the same type of offense than those who recidivate after a longer period of time. A tendency toward specialization would seem to be facilitated by both the development of skills and by perceived success in the commission of a certain type of offense. Brief intervals between offenses may therefore represent both a prerequisite for and a result of specialization.

The relation between speed of recidivism and the extent of specialization has not been addressed by previous research. In the current study, the question is examined by dividing recidivism speed into three categories and measuring the degree of repeat-type offending by category. More specifically, transition matrices have been set up where the specific form of offending is compared to the subsequent form of offending. The results appear in Table 12.1, where the categorization of offenses corresponds to that used in the criminal statistics, not the eleven-point classification scheme presented here.

Table 12.1 clearly illustrates that the extent of specialization is related to how quickly the next offense is committed. For all categories of penal code violations, the number who recidivate to the same type of crime decreases as the time before recidivism increases. In regard to traffic code offenses, the

relation between speed of recidivism and the extent of specialization is less straightforward. For driving while intoxicated, the relation is the opposite of that previously mentioned. Relatively few of those who recidivate quickly do so as drunken drivers. In this category, the number of repeat offenders is twice that of those who do not recidivate for more than one year. A similar pattern is seen in the area of the special codes, particularly for violations of the Firearms Act.

Table 12.1 is based on all offenders in the study data. A similar analysis has been performed exclusively on subjects in the onset sample. The results of this analysis correspond precisely to those shown in Table 12.1. The relationship between the tendency toward specialization and the speed of recidivism must therefore be assumed to be independent of the age of the offender or the stage of the criminal career.

As shown in Chapter 8, recidivism occurs in half the cases within one month, and in just over 80% of the cases within one year of the latest offense. Measurement of specialization will therefore largely reflect crimes committed within brief intervals. This is presumably especially true for the current study since it includes information on *all* types of offenses disposed within a criminal hearing, whereas other studies typically focus solely on the most serious disposition charge. Studies which focus solely on a single charge exclude offenses committed after intervals so short as to be included in the same criminal legal disposition, and thus reduce the likelihood of detecting specialization where it exists (for example, a series of burglaries committed by the same person within a short period of time). The fact that the current study includes all disposition charges will result in the identification of a higher degree of specialization than that found in most other studies. It should be noted, however, that the presence of multiple charges is not due to "overcharging," as is common in the United States, since only those charges that have actually led to a disposition are included in the study. Furthermore, and in contrast to the American system, a single offense will typically lead to a single charge in the Danish system, meaning that the number of charges corresponds to the number of offenses.²

Types of Data. If specialization is examined by calculating the number of similar offenses out of the total number of offenses, chronology would be unimportant. The ordering of offenses is important, however, if

² American law enforcement personnel tend to overcharge in the hope that one or more of the charges will stick. Whereas an aggravated assault in Denmark is typically charged solely as an "aggravated assault," American police officers will often charge "assault," "aggravated assault," "assault with intent to kill," "assault with a deadly weapon," and so forth. The use of all disposition charges is therefore appropriate within the Danish context, and will not lead to an overestimate of specialization as it would within the American context.

specialization measurements include all transitions from one offense type to another. Furthermore, in order to examine age-related changes in the tendency toward or type of specialization, it is necessary to date offenses. Given this, it would seem that register data provide a better foundation for the analysis of specialization than data from studies of self-reported criminality (Farrington, Snyder, and Finnegan, 1988). Self-report data generally lack information on the specific timing of criminal events, whereas register data almost always include at least one precise temporal marker (date of arrest, disposition, etc.).

In spite of its drawbacks, there are still many studies of specialization that are based on self-reported criminality data. A review of 33 studies of specialization shows that 14 are based on self-report data (Klein, 1984). However, these all focus on young offenders with short criminal careers, thus narrowing the time frame in question.

Methods of Analysis. The methods of analysis that are used in specialization studies range from simple counts to more refined statistical techniques. Such studies may concern counts of offenses within the same category (Bursik, 1980) or comparisons of the expected and actual number of offenses within a given category (Farrington, Snyder, and Finnegan, 1988). Farrington, Snyder, and Finnegan (1988) define specialists as those who have at least ten times the number of offenses than expected within the same category. A Swedish study uses a similar method, as specialists are defined as those who have at least 75% of their offenses within the same category (Wikström, 1991).

However, the aforementioned methods are rare. In most studies either factor analyses or transition matrices are used.

Factor analyses are especially common in older studies of specialization (Klein, 1984). Ever since transition matrices were used for the first time in the Philadelphia study (Wolfgang, Figlio, and Sellin, 1972), this method has become more and more dominant. The use of transition matrices measures how often agreement occurs between a prior and subsequent offense. Therefore, it is always the subject's two closest offenses in time that are compared. The percentage of transitions between the same and different kinds of offenses can then be calculated. The use of transition matrices is considerably more demanding than factor analyses, since identification of specialization requires that offenders not only commit the same form of offense more often, but also that these similar offenses occur in succession.

Methods for estimating the distribution of transitions were formerly based on simple percentages, which did not take account of the fact that offenses – regardless of the presence of specialization – are typically quite

unevenly distributed across the different offense categories. Newer methods of calculation, developed by Haberman (1973) and first used by Bursik (1980) and later other criminological researchers (see, for example, Rojek and Erickson, 1982; Blumstein, Cohen, Das, and Moitra, 1988), take this into consideration by including both the observed and the expected frequencies in the calculations. Haberman's method makes use of what he calls the Adjusted Standardized Residual (ASR):

$$ASR = \frac{O - E}{\sqrt{E * \sqrt{((1 - (R/T)) * (1 - (K/T)))}}}$$

where O = observed frequency, E = expected frequency, R = row total, C = column total, and T = total.

This method has also been criticized, however. Farrington (Farrington, Snyder, and Finnegan, 1988), for example, contends that *ASR* not only reflects the degree of specialization, but also the size of the study sample. He suggests a new method, Forward Specialization Coefficient (*FSC*), which is independent of sample size (see also Farrington, 1986). *FSC* varies from 0 to 1, where 1 suggests total specialization and 0 total versatility. The value can also be negative if there is a definite tendency for a given offense *not* to be followed by one of the same type. This method has been adopted by other researchers (Kempf, 1987; Stander, Farrington, Hill, and Altham, 1989; Gottfredson and Gottfredson, 1994), and is calculated in the following way:

$$FSC = \frac{O - E}{R - E}$$

Cluster analyses can also be used to look for the presence of specialization. Such analyses are not based on predefined categories of offenses; rather, the cluster analyses identify the categories. The technique examines whether a significant proportion of the individual's offenses are grouped within the same class or category (Blumstein, Cohen, Das, and Moitra, 1988; Collins, Cliff, Cudeck, McCormick, and Zatzkin, 1983).

The current study investigates specialization via both simple counts of similar offenses and the use of transition matrices. The latter are calculated on the basis of both the Adjusted Standardized Residual (*ASR*) and the Forward Specialization Coefficient (*FSC*).

Measuring Versatility

Measures of versatility or variation in offending have not been specified in previous studies of the criminal career. Although the word "versatility" is

used, it is typically mentioned only in connection with a failure to identify specialization, and not as a separate theme of the research. Such studies often use the expression “cafeteria style” offending in describing the methods by which offenders choose their type of crime. It indicates that the choice of offense depends primarily on arbitrary or situational factors (Klein, 1984).

In the current study, versatility is examined by considering the relation between *the total number* of offenses and *the number of different* offenses an individual commits.

Instead of the eleven-point classification scheme discussed previously, this measure utilizes the considerably more detailed categories used by the police in registering offenses. Their system classifies not only according to sections and clauses, but also according to more specific conditions of the crime itself. Having been designed primarily as a police classification tool, it is especially detailed in regard to the most common forms of crime. Therefore, the most commonly transgressed section of the penal code, §276 on theft, is divided into no less than 122 subcategories. Burglary is divided into 48 subcategories based on the scene of the crime (house, apartment, boat, bank, doctor’s office, etc.). The areas of violent and sexual crime, on the other hand, have very few subcategories. An analysis of the versatility of crime based on the categorizations of the police will therefore fail to show how many different sections an individual has violated, but will reveal how many of the categories used by the police the individual’s crime concerns.

Altogether the police have outlined 674 categories of offenses. Some of these must be assumed to be used only rarely, as they have not been applied in this study. In theory, however, it would be possible for the most active offenders to be classified under all 674 different categories.

The high number of categories provides almost boundless possibilities for variation among the most criminally active. Use of a less extensive categorization scheme would have resulted in a statistical ceiling effect. On the other hand, with such narrowly defined categories, evidence of versatility does not necessarily suggest substantive differences between the offenses; a finding of versatility could be due to minor variations in the same type of crime.

Previous Research

The question of specialization has been addressed in a Danish study from the 1950s (Wolf and Høgh, 1966). That study, based on register data, does not use any of the aforementioned methods of analysis. Instead, it categorizes offenders according to the types of offenses they commit. This shows that most of those who commit more than one offense commit different forms

of offenses, and the study concluded that "the criminals are not specialists in the sense that they continue to commit the same kind of offense all through their career" (ibid., p. 36).

The same conclusion has been reached in most other studies performed to date. The aforementioned review of 33 specialization studies shows that 21 of these studies cannot confirm the existence of specialization. Rather, they point to a high degree of versatility in the forms of offending that characterize the average criminal career. Of the remaining 12 studies, 8 can neither clearly confirm nor deny the specialization hypothesis, whereas 4 clearly support it (Klein, 1984). Methodological differences do not help to explain these contradictory results.

The 33 studies reviewed concern young offenders and therefore include both crime and delinquency. There are, however, other studies of similar populations that do point to some degree of specialization (for example, Farrington, Snyder, and Finnegan, 1988; Rojek and Erickson, 1982; Smith and Smith, 1984). There is thus a tendency toward specialization in some, but far from all crime categories. Almost all the studies conclude that versatility is more dominating than specialization. One study does, however, claim that there is a significant tendency toward specialization within most categories (Bursik, 1980). It should be noted that this study utilized only four categories of crime.

Many of the studies concerning adult offenders conclude that the picture is characterized by versatility rather than specialization (see, for example, Blumstein and Cohen, 1979; Farrington, 1992b; Gottfredson and Gottfredson, 1994; Kempf, 1987; Stander, Farrington, Hill, and Altham, 1989; Weitekamp, Kerner, and Herberger, 1998; for an overview, see Simon, 1997). An American study emphasizes that there is a tendency toward a higher degree of specialization among adults than among young offenders (Blumstein, Cohen, Das, and Moitra, 1988). This conclusion is supported by a Canadian study, which shows that versatility is less common in adult than in juvenile careers. But this should not be interpreted as specialization, since adult offenders also move between different forms of crime (Blanc and Fréchette, 1989).

Some of the studies which conclude that specialization does not exist in a restricted sense, do point to a tendency for committing offenses of a *similar* character, for example, by replacing one form of property crime with another (see, for example, Blumstein and Cohen, 1979; Blumstein, Cohen, Das, and Moitra, 1988).

Studies also exist which show that some forms of crime, but not others, are associated with specialization. A comparative German-English study

concludes that there is a tendency toward specialization in property offenses and in traffic code violations (Albrecht and Moitra, 1988). An English study, based on males sentenced to confinement, shows that specialization is most common among sexual offenders (Stander, Farrington, Hill, and Altham, 1989). It also reveals a tendency toward specialization in fraud among offenders with long criminal histories (*ibid.*). Another study supports the notion that some specialization exists for narcotic crimes and fraud, but that violent crime is characterized by specialization of only a limited degree (Blumstein, Cohen, Das, and Moitra, 1988).

Some American studies of specialization have used Danish data. Two studies, in fact, utilized the same Danish data drawn from the criminal register, concerning male children born in Copenhagen between January 1, 1944, and December 31, 1947.

The first of the studies finds poor support for the assumption of specialization (Collins et al., 1983). Although factor and cluster analyses reveal that some of the offenses accumulate in two clusters – one very wide and including a broad range of crime, the other including all forms of traffic violations – many offenses, including violent offenses, do not fit into either of the two clusters (*ibid.*).

A somewhat contradictory conclusion is drawn in a later analysis of the same Danish data (Brennan, Mednick, and John, 1989). Here it is concluded that specialization in violence does occur in advanced criminal careers, but that specialization in property crime is only apparent during the initial portion of a career and not later (*ibid.*).

The difference between the results of the two studies is to some degree due to methodology. The techniques used in the latter study are more sensitive than those of the former, so that study detects even minor tendencies toward specialization. In fact, however, there is little disagreement between the two studies. Even though the latter study concludes that specialization does exist, it is – judged from the available information – still versatility that is the most common.

Regardless of the final conclusions drawn, many studies find that for one or more crime categories, recidivism to the same type of crime is greater than should be expected if total independence between prior and continued crime is assumed on the basis of chance alone. But the difference between the expected and the observed frequency of recidivism to the same type of crime is typically minor. The conclusions drawn on this basis will depend on the individual researchers' subjective judgments. Some stress that specialization is minor, whereas others emphasize that it exists when it can be shown statistically.

Specialization Measured by Number of Similar Offenses

A study of offenders who have committed at least five offenses indicates the degree of specialization by assessing the proportion of similar offenses. Only four crime categories are used in this measurement, and the results are distributed by race. The study shows that 66% of the white offenders commit at least half of their offenses within the same category, whereas the number for nonwhites is 50% (Bursik, 1980, p. 862).

In light of the evidence presented in Figure 12.1, these results are not surprising. Many of the offenses will, of necessity, fall within the same category, when a small number of categories is used. As mentioned, the number who commit the same type of offense decreases significantly when more categories are used.

Figure 12.2 provides another simple means of looking at specialization. The figure concerns those offenders who have committed from two to eight offenses in the study period, and indicates the number who have committed crime within the same category *every time*. Crime is divided into the eleven main categories commonly used in criminal statistics. Specialization is related to the number of offenses the individual has committed. When these are added together, the result seems nonsensical, as the percentage is greater than 100. Under this method, total specialization would be reflected by a score of 700%. It is in relation to this number that Figure 12.2 should be viewed.

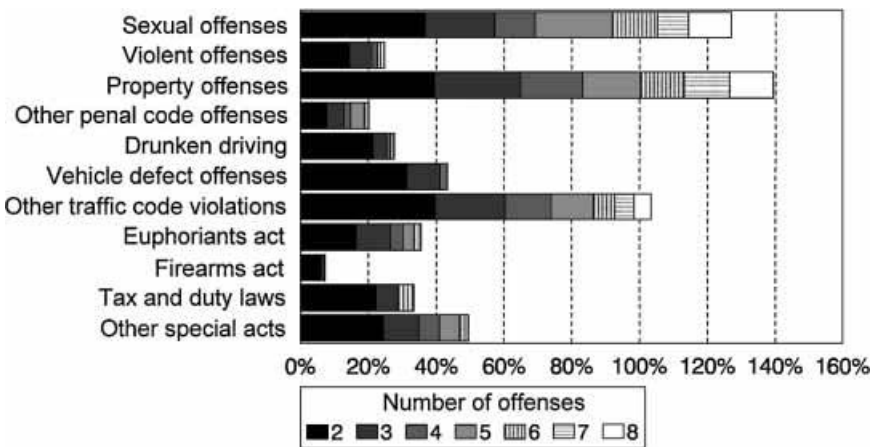


Figure 12.2. Cumulative percentage of offenders who have committed the same form of crime every time, related to the total number of offenses.

In general, Figure 12.2 shows that the more offenses one commits, the less likely one is to have committed them all within the same category. It is easier to find specialists among those who have committed only two offenses than among those who have committed seven.

At first glance, Figure 12.2 suggests clear evidence of specialization among property offenders. It must be kept in mind, however, that offenses against property are the most common transgressions within the penal code area. Simple probability would thus suggest that a recidivating property offender will once again commit crime against property. Given this, the number of specialists should actually be considered relatively low rather than high.

Sexual offenses, also suggestive of specialization, do not represent a big area of crime. It should hardly be surprising that relatively many of the sexual offenders who recidivate, again commit sexual offenses, since some of these crimes are associated with special desires. Unlike the need for money, the desires satisfied through sexual offenses cannot be satisfied through other forms of crime. It should be noted that the recidivism rate of sexual offenders is relatively low. Still, to the extent that sexual offenders do recidivate, it is often in the form of new sexual offenses.

Many of those who speed, drive without a license, or drive while their licenses are suspended, a combination making up a large proportion of the category "other traffic code violations," also tend to commit offenses within the same category when they recidivate.

Figure 12.2 also reveals certain areas in which few specialists should be expected to be found. Among others, these include violence and driving while intoxicated. Violations of the weapons code, for instance, represent a narrow band of offenses transgressed by only a small number of offenders. Such offenses are often part of, or are detected in connection with, other forms of crime (see Kyvsgaard, 1995d). For that reason alone, a minor degree of specialization can be expected in this area.

Specialization and Age

It is common knowledge that certain offenses occur more frequently among young offenders, whereas others occur more frequently among older offenders. Public crime statistics give an impression of the age-related variation in type of crime by indicating the average age of peak prevalence for different offenses. Studies can also show changes in crime preference with increasing age. For example, Project Metropolitan-Stockholm shows that theft decreases with age while other crimes, like fraud, increase (Wikström, 1990). An American study of incarcerated offenders suggests development in the

criminal career from car theft and burglary in youth to robbery and forgery in adulthood (Petersilia, Greenwood, and Lavin, 1978). A Canadian study also points to age-specific preferences for different types of crime (Blanc and Fréchette, 1989).

None of this necessarily means that specialization in different crimes exists at different age levels. This would require that individual offenders commit only one, or predominantly one, type of crime at each age level.

Only a few studies have examined the relation between age and specialization, since many of the specialization studies concern only a relatively narrow age group. Yet, some of these studies point to a greater tendency to specialize later in the criminal career than in the beginning (Farrington, Snyder, and Finnegan, 1988; Piquero, Paternoster, Mazerolle, et. al., 1999), which can give the impression of an increased tendency toward specialization with increasing age. On the other hand, other studies have found no such pattern in the criminal career (Rojek and Erickson, 1982; Wolfgang, Figlio, and Sellin, 1972).

A few studies refer more directly to age in relation to specialization. A review of studies of violence thus notes that there is a stronger tendency toward specialization among adults than among young offenders (Weiner, 1989). A study of adult offenders concludes that those who continue to commit crime for many years are more specialized than those who desist earlier (Blumstein, Cohen, Das, and Moitra, 1988). This statement is related to both age and extent of the criminal career. The same study points to increased specialization in narcotics crime and fraud. A Swedish study reaches a different conclusion in regard to specialization and age, as it finds more specialization among younger than older offenders (Wikström, 1991). The young specialize almost exclusively in theft, whereas the old, to the extent that they specialize, do so within several categories of crime.

In the current study, development of specialization is examined in relation to both the stage at which it occurs in the criminal career and the age of the offender. Analysis of the latter appears in Table 12.2.

The calculation of *ASR* shows that at all age levels and in all crime categories a significantly greater number of transitions occurs to offenses within the same category than to other categories.³ It must thus be concluded that type of recidivism is not completely random, but is instead related to the last offense committed. There is – regardless of age and type of crime – a

³ Bursik (1980, p. 858) mentions that *ASR* is approximately normally distributed within each cell in the transition matrix. This means that significance tests can be performed separately for each cell. The significance level for all cells in the diagonals of the transition matrices of Table 12.2 are less than 0.001.

Table 12.2. *Forward Specialization Coefficients for transitions within the same category of offense, distributed by age*^a

	Age						
	15–19	20–24	25–29	30–39	40–49	50+	All
Sexual offenses	0.50	0.72	0.61	0.64	0.78	0.77	0.67
Violent offenses	0.41	0.34	0.30	0.32	0.44	0.50	0.36
Burglary	0.51	0.51	0.52	0.57	0.67	0.78	0.55
Theft	0.38	0.38	0.36	0.50	0.57	0.72	0.43
Joy riding and auto theft	0.28	0.22	0.16	0.16	0.30	0.20	0.26
Other property offenses	0.66	0.70	0.71	0.70	0.73	0.82	0.71
Drug offenses	0.23	0.40	0.45	0.50	0.55	0.60	0.44
Other penal law offenses	0.18	0.12	0.11	0.29	0.54	0.39	0.25
Drunk driving	0.14	0.16	0.15	0.22	0.22	0.24	0.20
Other traffic offenses	0.42	0.39	0.43	0.48	0.52	0.53	0.45
Special laws	0.15	0.25	0.30	0.36	0.44	0.52	0.36

^a It is age at first (current) offense that is indicated in the table. The recidivism crime will in most cases fall into the same age category, since 80% of recidivism occurs within 1 year of the prior offense.

greater probability for recidivism to the same than to an arbitrary, alternative category of offense.

In deciding whether this can be interpreted as specialization, the *FSC* as shown in Table 12.2 is helpful. The value of *FSC* can vary from 0 to 1, where 1 indicates total specialization and 0 total versatility.

None of the values in Table 12.2 equals 1, and none equals 0. Accordingly, none of the age groups and none of the crime categories is characterized by total specialization or total versatility.

The column furthest to the right in Table 12.2 shows the total *FSC* values for the different crime categories. The category characterized by the highest tendency toward specialization is “other property crime” (*FSC* = 0.71). This is undoubtedly explained by the fact that a significant number of the offenses in this category can be classified as serial crime. Approximately half the offenses here are related to check forgery. Such offenses typically originate from a stolen checkbook, and each instance in which a person cashes or tries to cash a check will be registered as a separate offense. Several cases of the same kind will thus often be registered immediately after one another. Evidence of specialization in this area should be considered with this in mind.

The area with the second highest tendency toward specialization is sexual crimes (*FSC* = 0.67), which here include arson. As pointed out earlier, these

crimes deviate from most others by fulfilling certain needs of the offender, needs that cannot be fulfilled through other types of crime. It is therefore understandable that a subsequent offense, should one occur, will typically be within the same category.

The third highest rate of specialization is found within crimes of burglary ($FSC = 0.55$). Unlike most others, this category is relatively pure, as it includes only various forms of burglary. The average FSC of the remaining crime categories is less than 0.5. The lowest rates of specialization are found for driving while intoxicated, thefts for purposes of limited use, and “other penal code crime.”

There appears to be a tendency for specialization to increase with age within several of the crime categories, particularly narcotics crime, sexual crime, and burglary. Within the group of simple thefts, the tendency toward specialization increases most rapidly among the oldest offenders, which reflects the prevalence of shoplifting in those age groups.

Overall, Table 12.2 shows that the tendency toward specialization is smallest for the most criminally active age groups: the very young. This is contrary to what the aforementioned Swedish study found (Wikström, 1991), but corresponds fairly well with the conclusions of most other studies. Those who recidivate least (that is, the oldest offenders) appear to have a greater tendency toward specialization. The criminal careers of the oldest offenders are thus characterized by considerably less versatility than that of the youngest.

Table 12.3 examines whether the tendency toward specialization is associated with the order in which offenses are committed. Does specialization become more common as the number of offenses increases, or does the tendency to commit new types of offenses grow over time?

With few exceptions, most notably within the category “other penal code crime,” the ASR calculations on the transitions in Table 12.3 show that the proportion of offenders recidivating to similar offense types is significantly greater than that recidivating to one of the other categories.⁴ The rule of thumb is that when FSC values are under 0.10, the number recidivating to the same category is nonsignificant.

Compared with Table 12.2, Table 12.3 shows somewhat lower values of FSC . It must be remembered that Table 12.3 includes only the youngest offenders, since examination of specialization in relation to offense order is facilitated by limiting the analysis to the onset data. The age categories represented in Table 12.3 correspond to only the second and third columns

⁴The significance level is often lower however (i.e., 0.01 or 0.05) than that mentioned in Table 12.2.

Table 12.3. *Forward Specialization Coefficients for transitions within the same category of offense, distributed by order of offense*

	1-2	2-3	3-4	4-5	5-6	6-10	11-20	21-50	51-100	>100
Sexual offenses	0.20	0.50	0.67	1.00	0.75	0.65	0.50	0.50	0.16	0.50
Violent offenses	0.23	0.25	0.41	0.34	0.33	0.37	0.42	0.30	0.30	0.43
Burglary	0.42	0.48	0.51	0.53	0.48	0.53	0.46	0.50	0.57	0.64
Theft	0.25	0.32	0.37	0.31	0.33	0.35	0.40	0.32	0.28	0.19
Joy riding and auto theft	0.15	0.20	0.14	0.21	0.21	0.28	0.28	0.29	0.22	0.30
Other property offenses	0.28	0.31	0.61	0.59	0.60	0.57	0.66	0.69	0.73	0.79
Drug offenses	0.28	0.20	0.28	0.22	0.39	0.33	0.40	0.36	0.38	0.19
Other penal law offenses	0.18	0.16	0.09	0.27	-0.06	0.13	0.10	-0.01	0.12	0.34
Drunk driving	0.24	0.20	0.20	0.28	0.19	0.10	0.08	0.18	0.09	0.10
Other traffic offenses	0.33	0.37	0.39	0.34	0.41	0.35	0.30	0.30	0.47	0.32
Special laws	0.24	0.26	0.31	0.31	0.06	0.25	0.20	0.09	0.37	0.25

of Table 12.2, where *FSC* values are generally lower than for the older age groups.

For many of the offense categories, fluctuations in *FSC* values indicate that there is no clear trend toward specialization with additional offenses. For sexual crimes, violent crimes, and simple thefts, however, the trend can roughly be described as an inverted U-curve, where the tendency toward specialization is lowest during the earliest and latest offenses. For burglary in particular, however, in the category of "other property crime," there does seem to be a tendency toward increased specialization as the criminal career advances. This corresponds to the findings of some previous research.

Specialization and Gender

The very few studies that examine the relation between gender and specialization suggest that specialization is more common among women than among men. Two of the studies, both based on American juveniles, find that adolescent girls are particularly prone to running away from home (Rojek and Erickson, 1982; Farrington, Snyder, and Finnegan, 1988). At the same time, one of the studies (Farrington, Snyder, and Finnegan, 1988) also concludes that the criminal careers of both girls and boys are primarily characterized by versatility. A third study, where specialization is defined by more than 75% of the offenses belonging to the same category, shows that 42% of the women can be characterized as specialists on this basis, as opposed to only 24% of the men (Wikström, 1991).

The current study supports this, finding that women have a greater tendency toward specialization than men, as shown in Table 12.4. The table also demonstrates that the number of transitions to offenses within the same category is significantly larger than to other categories.

When comparing male and female tendencies toward specialization it should be kept in mind that women have a very low number of offenses within some of the crime categories. This is particularly true for the category of sexual offenses/arson, which in Table 12.4 includes only 71 female offender cases. Many of the other categories also include relatively few females. The dominating categories for females are simple theft and "other property offenses," which contain roughly the same number of cases and combined represent 64% of the female-perpetrated offenses represented in Table 12.4.

Simple theft is one of those categories for which the tendency toward specialization is considerably greater for women than for men, because of the relatively high number of women who commit shoplifting.

Table 12.4. *Forward Specialization Coefficients for transitions within the same category of offense, distributed by gender*

Category of offense	Males	Females
Sexual offenses	0.66	0.86
Violent offenses	0.36	0.36
Burglary	0.54	0.60
Theft	0.39	0.59
Joy riding and auto theft	0.26	0.27
Other property offenses	0.70	0.74
Drug offenses	0.42	0.57
Other penal law offenses	0.25	0.19
Drunk driving	0.20	0.22
Other traffic offenses	0.44	0.53
Special laws	0.34	0.61

Table 12.4 shows that the tendency towards specialization among women is especially pronounced for the category of "other property crime." This is largely related to check forgery, the crime with the highest frequency of female offenders.

Narcotics crime should be mentioned as a category where specialization among women is relatively high. For both males and females, most of the cases in this category concern "soft-drug" offenses covered under the Euphoriant Act. The number who are registered for violating the narcotics sections of the penal code is relatively higher for women than for men.

In conclusion, the study indicates a higher degree of variation in criminal repertoire for men than for women. To the extent that women recidivate, they are more likely than men to commit an offense of a nature similar to the last.

Versatility

The assumption of specialization, it appears, cannot be rejected. We now examine the picture when the question is turned around. How much variation exists in the types of offenses? The answer is illustrated by Figure 12.3. Based on the full sample, the figure shows the average number of different offenses as a function of the total number of crimes committed.

Figure 12.3 clearly demonstrates that versatility in offending increases with the number of offenses. Individuals who have committed a total of thirty

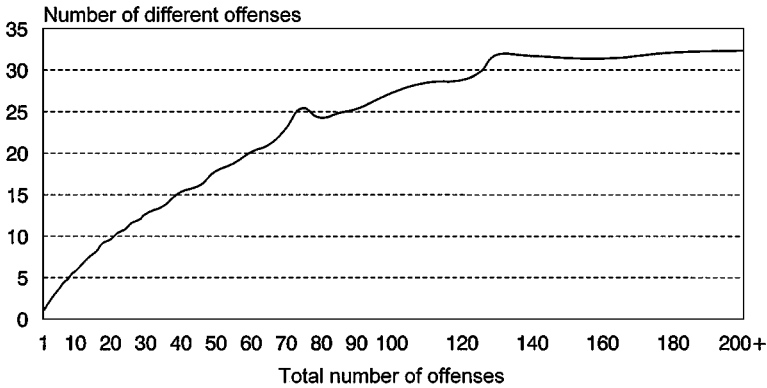


Figure 12.3. The relation between total number of offenses and the number of different offenses.

offenses have on average committed thirteen different types of offenses. Individuals registered for sixty offenses are registered for twenty different offenses. The analysis confirms that *increased versatility in type of offending occurs with increased criminal activity*.

Yet, the figure also shows that versatility is far from absolute. First, the number of offense types does not increase at the same rate as the total number of offenses. Regardless of the number of offenses there is a clear and consistent tendency toward repeating the same type of crime. Second, the relation between total number of offenses and the number of different offenses is nonlinear. As the total number of committed offenses grows, the increase in the growth of the range of offenses slows. For individuals who have committed a very high number of offenses, the growth in the number of different offenses ceases.

Summary

The criminal career is characterized by neither total specialization nor total versatility in type of offending. A tendency toward specialization exists side by side with a tendency toward versatility. On one hand, recidivism is characterized by a substantially greater likelihood of repeating the same type of offense. On the other hand, the number of different types of offenses committed by an individual increases with the individual crime frequency.

The tendency toward specialization is greatest for sexual crimes. It is also high for the categories of burglary and “other property crime,” the latter of which includes forgery. Specialization, in fact, increases with the

total number of burglaries and forgeries committed. The tendency toward specialization is lowest for driving while intoxicated and theft for the purpose of limited use.

Specialization is more common among older than younger offenders, and is higher among females than males. Specialization is greatest among those who have the lowest crime frequency, and least common among the most criminally active.

The current study has detected a somewhat greater tendency toward specialization than much of the previous research. The explanation for this is, at least in part, methodological.

At least some of the previous research utilizes narrower crime categories than the current study (see, for example, Blumstein and Cohen, 1979; Blumstein, Cohen, Das, and Moitra, 1988; Farrington, Snyder, and Finnegan, 1988). This does not necessarily mean that the number of categories is greater than the number used here, since some of those studies include only a limited segment of the total number of offenses. Some of the studies include offenders who have ceased committing crime, which naturally reduces the tendency toward specialization (see, for example, Kempf, 1987; Rojek and Erickson, 1982). Furthermore, many of the previous studies focus on youth, a group that this study finds less likely to specialize. The current study includes considerably more of those offenders who have the greatest tendency to specialize: the elderly.

What is even more significant is the level of detail provided by the Danish registry data, particularly in regard to the inclusion of all subcases. As previously mentioned, the inclusion of multiple charges increases the probability of finding specialization, since the time between offenses is related to the extent of specialization: the shorter the period, the greater the likelihood of recidivism to the same type of crime.

Whether, beyond the methodological explanations, there also exist real differences in the relative tendencies of Danish and non-Danish offenders to repeat the same type of offense is difficult to determine. But significant differences in tendencies toward specialization persist even when comparing specific groups for whom the aforementioned methodological difficulties exist to a lesser degree.⁵ It is possible that cultural factors affect criminal careers by modifying the illicit reward structure, thus changing the ease with which goals common to offenders can be reached via illegal means.

⁵ For example, Farrington, Snyder, and Finnegan (1988), find an *FSC* value of 0.15 for burglary among young, male offenders. In the current study the *FSC* value is 0.51 for 15- to 19-year-old burglars, most of whom are male.

Such means vary as situational factors modify both their availability and perceived effectiveness within specific cultural contexts.

In closing, it should be emphasized that the specialization analyses presented herein are based on relatively broad crime categories and specific populations. Conclusions in regard to specific crimes such as rape or alternative subpopulations cannot and should not be made. Specifications such as these will require further, separate analyses.

Escalation in the Seriousness of Crime

ESCALATION refers to *the tendency to commit more serious offenses* as a career progresses. The widespread assumption that the seriousness of crime escalates is largely fed by the analogy between criminal and occupational careers. The term “career” implies an expectation of reaching a higher rank. A career begins with minor dabbling, which does not require specific knowledge. Through ongoing training and improvement of skills, the career may culminate in complex involvement. The prison environment is thought to play a special role in the escalation of offense seriousness. What one cannot do when one enters, one may be fully competent to undertake when one leaves.

Many of the criminal careers which unfold in the mass media reaffirm the impression of escalation. Those offenders who have committed very serious crimes, such as murder, are often mentioned. Many have a long prior list of less serious forms of crime. In light of this, the murder appears as the peak or final stage of the criminal career.

The assumption of escalation is also fed by criminological research. As mentioned in Chapter 2, Clifford Shaw’s pioneering study, *Brothers in Crime*, describes the seriousness of crime as an escalating process (Shaw, 1938). Similarly, studies of self-reported criminality among children show that early careers are dominated by simple and petty types of crime. Those children who gain the greatest experience with criminality often go on to commit more serious forms of crime (Kryvsgaard, 1992a).

Whether the assumption of escalation is correct is examined here.

Measurement of Escalation

Measurement of escalation requires a categorization of crime according to its seriousness.

The field of criminology has not yet agreed on a standard measure of the seriousness of offenses. Many American studies utilize a scale of seriousness related to the type of the offense. This scale includes ten offenses, with fraud as the least serious, followed by, among others, car theft, burglary, assault, robbery, rape, and homicide as the most serious offense (Blumstein, Cohen, Das, and Moitra, 1988, p. 338). The scale values assigned to these offenses sometimes vary from study to study (see Warr, 1989, for a critical evaluation of scales of seriousness).

The American scale cannot be used on Danish data since the assessment of the seriousness of offenses in the United States is not the same as in Denmark. A significant problem with such scales of seriousness is that they encompass only a minor proportion of the offenses committed. A scale with only ten offense types will exclude the majority of crimes included in this study.

Three different scales of seriousness are used in the current study. They are based partly on the range of sanctions legally applicable to the offenses in question, and partly on the specific sanctions that the offenses have actually elicited.¹ These scales of seriousness can be applied to every type of offense. In principle, it must be assumed that scales concerning sanctioning options reflect both a popular and a legal appraisal of the relative seriousness of offenses.

The first of the three scales utilizes *the standard sanctioning options* (the sanctioning options typically available in the standard cases). These generally include sanctioning options mentioned in the beginning of the different sections and ones not connected to special mitigating or aggravating circumstances. Many offenses have only this one range of sanctioning options.

¹ In many countries offenses are divided into two or three groups according to seriousness. In France, for example, a tripartition is used, and in the United States offenses are divided into misdemeanors and felonies. The Finnish Criminal Law Committee has discussed four alternative divisions of offenses: scales with seven, six, four, and three levels of seriousness, respectively (Kommitteebetänkande 1976, pp. 123 ff.). However, none of the proposals has been carried out. In Denmark there is a linguistic distinction between "*forseelser*" and "*forbrydelser*," but a formal division does not exist (see Hurwitz 1952, pp. 3 ff., on the classification of crime; Greve 1996a, pp. 226 ff., describes the conditions which determine the seriousness of crimes). The penal code and the special codes can be said to distinguish between offenses of different levels of seriousness. Still, a classification system that uses only a few levels of seriousness cannot distinguish between the seriousness of offenses to a degree suitable for the measurement of escalation.

A number of offenses have a specific *sanction maximum* for those cases with aggravating circumstances. It is often stated that an offense is especially serious. Sanction maximum is the second scale used in the measurement of escalation. In those cases where a specific sanction maximum does not exist, the standard sanctioning options are used instead.

The third scale evaluates the seriousness of crime based on *the imposed sanction*. This scale is in many ways the more difficult and problematic of the three because the individual's age, criminal history, and social circumstances influence the determination of the sanction. Furthermore, some of the imposed sanctions will derive from more than one offense. Escalation in the severity of the sanction may therefore reflect characteristics of the offender or the presence of multiple offenses rather than the seriousness of a particular charge. On the other hand, this scale of seriousness relates to the specific outcomes of an actual legal hearing, whereas the other two scales are based only on theoretically applicable sentencing criteria.

The scaling of offenses is designed to differentiate between offenses of different degrees of seriousness. Some consideration has been given to the number of cases representative of each level of seriousness, since each scale level must include a sufficient number of cases for statistical analysis to be performed. Statistical analysis would be facilitated by an equal distribution of the cases across each of the levels of seriousness, but this is not possible. The majority of the offenses committed in Denmark result in a low seriousness classification, whether based on the standard sanctioning options, the maximum sanction, or the imposed sanction scales. Offenses against the traffic code contribute a particularly large number of cases, most of which are punishable by only a fine.

The scales of seriousness which concern standard sanctioning options and sanction maxima have values from 1 to 6, whereas the scale for imposed sanctions has values from 1 to 8. The values are as follows:²

The scale of the standard sanctioning options:

Level 1: Fine.

Level 2: Fine or simple detention; simple detention.³

Level 3: Fine, simple detention, or imprisonment up to 1 year; simple detention or imprisonment up to 1 year.

² Legally applicable sanctioning options are indicated for each level of the first and second scales.

³ "Simple detention" refers to imprisonment of six months or less in which inmates have no work obligations and no contact with long-term inmates. It is analogous to confinement in U.S. jails.

Level 4: Fine, simple detention, or imprisonment up to 1 or 2 years; simple detention or imprisonment up to 1 or 2 years.

Level 5: Fine, simple detention, or imprisonment up to 3, 4, or 6 years; simple detention or imprisonment up to 3, 4, or 6 years; imprisonment up to 3, 4, or 6 years.

Level 6: Imprisonment up to 8, 10, or 12 years; imprisonment for life.

The scale of the sanction maxima:

Level 1: Fine.

Level 2: Simple detention; 1 year of imprisonment.

Level 3: 1 year of imprisonment; 2 years of imprisonment.

Level 4: 3 years of imprisonment; 4 years of imprisonment.

Level 5: 6 years of imprisonment.

Level 6: Imprisonment up to 8, 10, or 12 years; imprisonment for life.

The scale of the imposed sanction:

Level 1: Waiver of prosecution; warning, etc.

Level 2: Conditional waiver of prosecution.

Level 3: Fine.

Level 4: Suspended sentence of confinement without determination of the sanction.

Level 5: Suspended sentence with determination of the sanction.

Level 6: Confinement up to 30 days.

Level 7: Confinement from 30 to 180 days.

Level 8: Confinement from 6 months to life.

Escalation is measured in two different ways. One method is based on transition matrices, where the level of seriousness for a given offense is compared with the level of seriousness for a subsequent offense. Transitions are measured every time a new offense is committed. The distributions that result are evaluated via statistical tests that examine whether the marginal distributions in the transition matrices are alike. One of these tests further checks for symmetry in the distributions over and under the diagonal (that is, if the transitions which suggest escalation and de-escalation, respectively, are alike).

The other – and somewhat simpler – method of measuring escalation assesses the average level of offense seriousness. Average seriousness can be related to offense order and thereby give an impression of transitional patterns, but the measure can also be related to other classifications of offenses.

Although transition matrices have been widely used in previous research, the second method, though more rare, would seem to provide a more straightforward impression of changes in the seriousness of crime.

Since escalation concerns the course of development throughout the criminal career, the analyses here include only subjects whose criminal onset is documented within the dataset. Analysis is therefore primarily limited to the onset sample of offenders who were 14 or 15 years old in 1979.

Previous Research

Escalation in the seriousness of crime, such as that described in Clifford Shaw's book *Brothers in Crime* (Shaw, 1938), has not been evident in the quantitative studies, which measure escalation by the use of transitions. Most studies indicate that neither escalation nor de-escalation occurs in crime seriousness.

Such is the finding of an extensive American study based on register data of arrests (Blumstein, Cohen, Das, and Moitra, 1988). That study uses the aforementioned American scale of seriousness with ten offense types, and examines changes in the seriousness of crime committed after arrest for these offenses. The main conclusion is that there is no clear evidence of either escalation or de-escalation in the seriousness of subsequent offenses.

A study of 1,200 juvenile delinquents in the United States also failed to find a tendency for youth to commit more and more serious crime over time (Rojek and Erickson, 1982). The same conclusion is reached in a Dutch study (Block and Werff, 1991), as well as in a comparative German-English analysis (Albrecht and Moitra, 1988).

A Canadian study, on the other hand, finds that escalation does occur, as data show that the criminal career develops from theft and vandalism to burglary and then on to serious property and person-endangering crime (Blanc and Fréchette, 1989). This conclusion is not based on transition matrices or similar methods, but solely on calculations of the typical age of the offenders who commit different types of crimes. As noted earlier, it is not surprising that this method of analysis shows that certain – less serious – offenses are especially common among young people, whereas other – more serious – offenses are more common among older offenders. The method is too crude, however, to detect changes in the individual criminal career.

Special studies of violent crime have been performed, as this area naturally attracts great interest in regard to the question of escalation. None of these studies has shown an escalation in the seriousness of violence (Weiner, 1989; Kyvsgaard, 1995d; but see also Tracy, Wolfgang, and Figlio, 1990). A study of spousal abuse, on the other hand, reveals a somewhat different result. It suggests that many desist from committing this form of violence relatively quickly, but that continued spousal abuse often develops into more

serious violence (Feld and Straus, 1989). The fact that spousal abuse seems to follow a different pattern from that of violence more generally should be considered in light of the unique victim-offender dynamic involved (see also Skjørten, 1994).

A major review of the research has concluded that studies of juvenile delinquency sometimes show escalation, whereas studies of adult offenders do not (Blumstein, Cohen, Roth, and Visser, 1986). The authors suggest that the failure to identify escalation in the seriousness of crime may be due to methodological limitations, as transition matrices tend to be dominated by a large number of individuals with few offenses. Transition matrices thus do little to show how crime develops for those with long careers. It is therefore recommended that matrical measurement of escalation be limited to samples of subjects with careers of approximately the same length.

The Danish Study

As a starting point for the evaluation of whether escalation in the seriousness of crime occurs, a simple calculation has been performed of the average seriousness of offenses in relation to their order, as shown in Figure 13.1.

At first glance, Figure 13.1 suggests that an escalation in the seriousness of offenses does occur. As shown, the average seriousness increases from a rating of just over 2 for the first offense to nearly 4 for those offenses that come after the first 100. Substituting the measurement of seriousness for that based on the maximum sanction produces similar results.

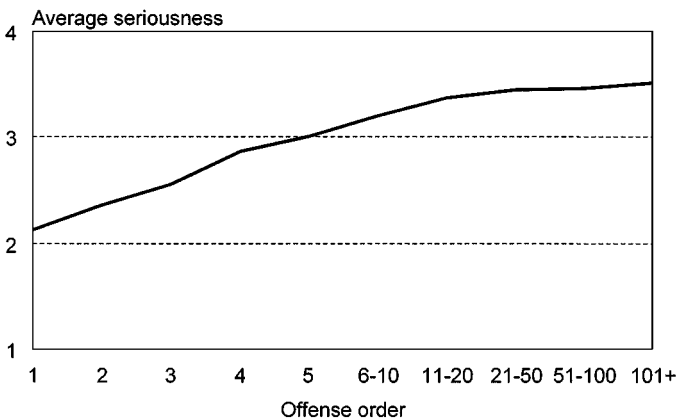


Figure 13.1. Average seriousness, measured by the standard sanctioning options, in relation to offense order.

Table 13.1. *The seriousness of the present offense (rows) compared with the seriousness of the subsequent offense (columns); seriousness is measured by the standard sanctioning options*

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Total
Level 1	2,276	86	582	769	53	35	3,801
Level 2	96	53	66	192	15	10	432
Level 3	636	72	856	748	46	30	2,388
Level 4	724	208	817	5,164	120	158	7,191
Level 5	41	29	39	122	114	4	349
Level 6	31	7	33	150	5	725	951
TOTAL	3,804	455	2,393	7,145	353	962	15,112

When escalation is analyzed via transition matrices, however, the outcome is different. Table 13.1 depicts the transition matrix for the same offenders as Figure 13.1. The bold-type numbers in the diagonal of the matrix indicate the number of transitions to an offense of the same seriousness as the previous one. This appears to occur frequently: A total of 61% of the transitions are located on the diagonal. Of the remaining transitions, 19% show escalation and 20% show de-escalation. Such findings cannot be said to indicate escalation in the seriousness of crime, a hypothesis also purely rejected by the statistical analyses.⁴

Transition matrices utilizing the scale of seriousness based on the sanction maxima also fail to find escalation in the seriousness of crime. Transitions not in the diagonal are, as with the previous measure, distributed evenly between indications of escalation and de-escalation.

Transition matrices thus yield very different conclusions from those found by the simple measures of average seriousness in relation to offense order. Such differences probably reflect the fact that increases in the seriousness of the crime, as indicated by Figure 13.1, are not in reality caused by a

⁴ Some of the statistical tests used were developed by cand. stat. Svend Kreiner and are included in the program DIGRAM. DIGRAM provides several means of examining whether homogeneity exists in the marginal of the matrix. However, since Kreiner's program will only work with a limited number of observations, the transition matrices which include a large number of observations are examined via tests from the BMDP statistical program (Dixon 1990, pp. 269 ff.). Both DIGRAM and BMDP test for homogeneity of the marginal, and both provide similar findings. BMDP includes only one test of homogeneity but it also includes McNemar's Symmetry Test, a test of symmetry in the distribution around the diagonal.

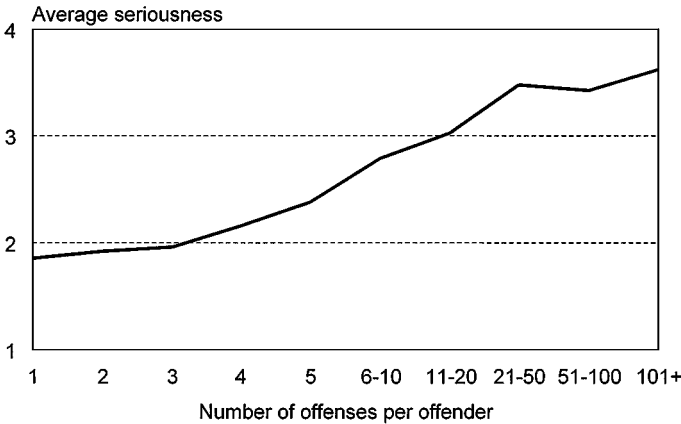


Figure 13.2. Average seriousness, measured by the standard sanctioning options, in relation to the total number of offenses committed by an individual.

tendency of the individual offender to commit more and more serious crime, but rather by more serious offenses on average being committed by those offenders who commit many offenses as compared to those who commit few. The larger group will dictate the average level of seriousness for the first offenses, whereas the relatively few high-frequency offenders will determine the average for subsequent offenses.

As shown by Figure 13.2, the hypothesized relation between the extent of a criminal career and its level of seriousness can be confirmed: Those who have committed fewer offenses have generally committed crimes of a less serious nature than those who have committed multiple offenses. This increase in the seriousness of offenses mimics that related to the order of the offenses, as shown in Figure 13.1, although the increase is more pronounced for the number of offenses. This is contrary to what other studies have shown. A re-analysis of the Philadelphia study data emphasizes that extensive criminal activity is not synonymous with dangerous or serious crime. Hence, the majority of the most active offenders have not committed serious violent crime (Weitekamp, Kerner, Schindler, and Schubert, 1995). This is in some disagreement with the present study, as described in Chapter 8, but it does not contradict the notion that the most active offenders on average commit more serious crime than the least active offenders.

Another study finds that the longer the criminal career – as measured by number of arrests – the lower the average level of seriousness (Blumstein, Cohen, Das, and Moitra, 1988). The authors of that study suggest that this may reflect the fact that the most severe offenders have received long

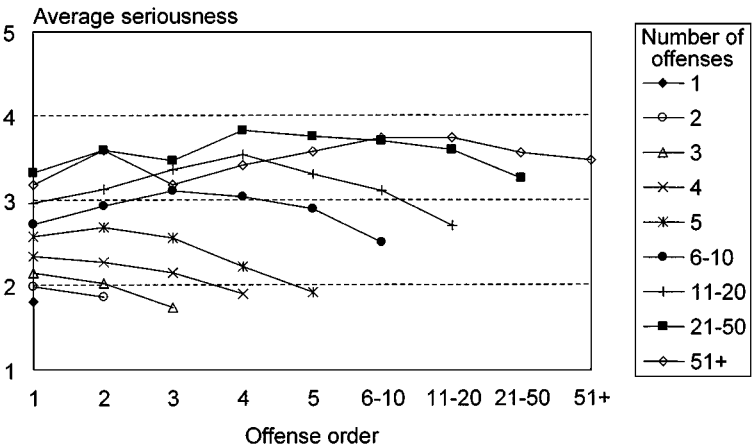


Figure 13.3. Average seriousness, measured by the standard sanctioning options, in relation to the total number of offenses and offense order.

sentences of confinement, thus reducing the extent of their careers. Since this source of error has not been taken into account, and since the aforementioned study focused solely on adult offenders (who have committed more serious crime), the explanation seems plausible. The results of previous studies should not therefore be seen as clear evidence against the findings drawn in the current study.

Although previous studies have found no correlation between number of offenses and offense seriousness, several analyses are performed here to examine the issue further.

Figure 13.3 shows that individuals who commit many offenses through the course of their career generally commit more serious offenses than those who commit few offenses. It also shows that individuals who commit few offenses have a de-escalating criminal career, whereas the career of those who commit many offenses can be described as an inverted U-curve: The beginning of the career is characterized by escalation in seriousness, the latter part by de-escalation.

This explains why transition matrices, which examine the course of the total career, fail to show changes in the seriousness of crime, as they will only reveal escalation or de-escalation of a linear nature.

Patterns in crime seriousness among a sample of individuals registered for approximately the same number of offenses confirms that more extensive criminal careers are characterized by escalation of crime seriousness at the start of the career, followed by de-escalation toward the end. To test the significance of the trend, separate transition matrices have been prepared

for offenders who have committed five to ten offenses and for those who have committed twenty-one to fifty offenses. Among the former, escalation in the seriousness of the crime appears from the first through the fourth offense,⁵ while there is a tendency toward de-escalation in seriousness for succeeding offenses.⁶ For those who have committed twenty-one to fifty offenses, crime seriousness escalates from the first through the fifth offense,⁷ followed by a plateau and subsequent de-escalation after the twentieth offense, as shown in Figure 13.3.⁸

Figure 13.3 also shows a remarkable relationship between the length of the criminal career and the seriousness of the first offense. Offenders with longer overall careers generally committed a more serious first offense than those whose careers were shorter. This difference was found not only between very long and very short careers, but also between careers closer in length. A somewhat similar result was obtained from the follow-up of the 1958 Philadelphia cohort (Tracy and Kempf-Leonard, 1996): For males, the severity of the first three offenses was related to the risk of adult offending.

Escalation and the Type of Crime

The seriousness of crime is naturally related to the type of crime committed. Career patterns in type of offending are examined here. What offenses do individuals with different career lengths commit at different stages in their careers?

Figure 13.4 shows very clear differences in the types of crimes committed by individuals with different career lengths. Traffic code offenses are more common among those with brief careers than among those with long careers. For offenders with long careers, the pattern in the number of traffic code violations can be described as a U-curve, since there is a tendency for a relatively large proportion of traffic code offenses to occur in the beginning and the end of the criminal career.

However, the inverted U-curve is characteristic of patterns in property crime offending, as shown in Figure 13.5. Offenders with longer careers commit fewest property offenses in the beginning and the end of their

⁵ $P < 0.01$ for the homogeneity of the marginal.

⁶ $P = 0.13$. Separate matrices have been prepared for the different transitions up to the sixth offense. Subsequent offenses are analyzed via a common matrix.

⁷ $P < 0.01$.

⁸ $P = 0.14$. Separate matrices have been prepared for the different transitions up to the twenty-second offense. A significant difference might show in the distribution of the marginal if a smaller number of the latter offenses were analyzed together (see also the following discussion about the development in the type of crime). This may also be true for those who have committed five to ten offenses.

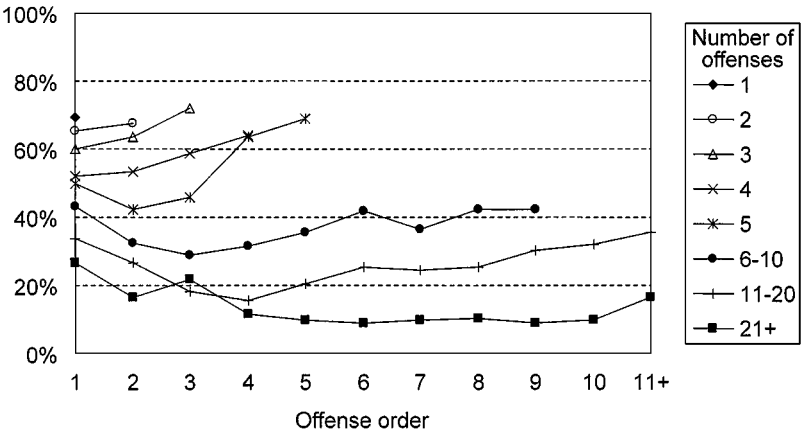


Figure 13.4. Number of traffic code offenses in relation to offense order and total number of offenses.

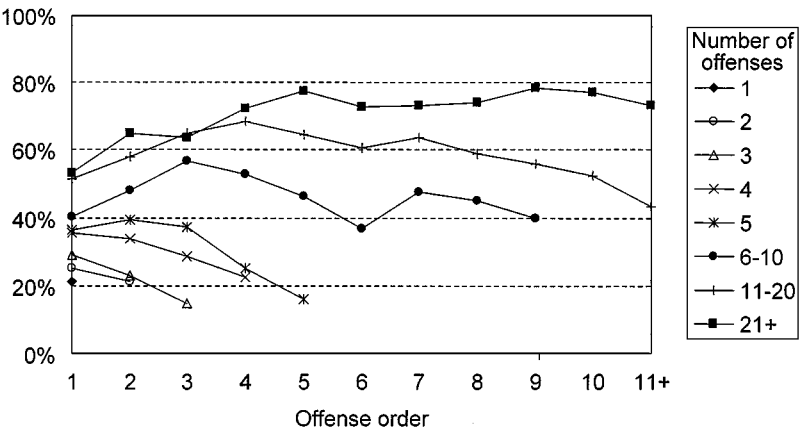


Figure 13.5. Number of property offenses in relation to offense order and total number of offenses.

careers. Offenders with shorter careers exhibit a steady decline in property offending throughout their career's duration.

When compared to Figure 13.4, Figure 13.5 also shows an inverse pattern for offenders with different career lengths, as measured by number of property and traffic code offenses. Those with the longest careers commit more property offenses in total than those with brief careers.⁹ Property offenses

⁹ Since very extensive careers are relatively rare, it has not been possible to divide the sample into smaller subgroups. It should be noted that the proportion of offenses related to property

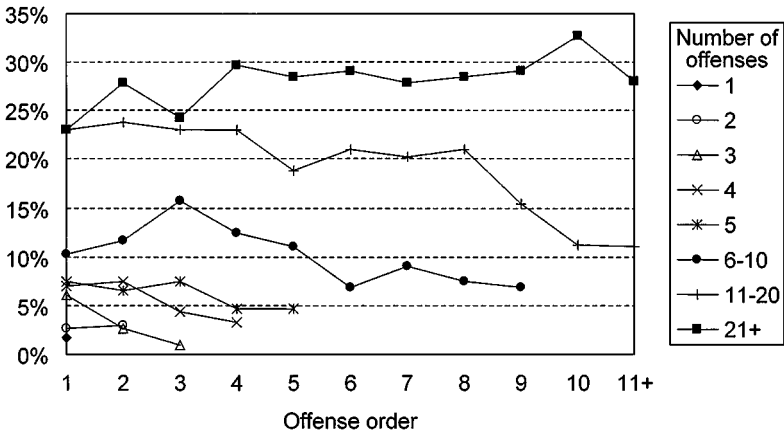


Figure 13.6. Number of burglaries in relation to offense order and total number of offenses.

thus become an increasingly dominant part of the criminal career as the career progresses. This finding corresponds to that shown about specialization in Chapter 12.

Involvement in burglary has been analyzed in relation to the extent of the career, since burglaries have been shown in prior analyses (Kvvsgaard, 1995b, 1995d) to be associated with extensive criminal careers. Figure 13.6 illustrates how the number of burglaries clearly differentiates offenders with different career lengths. Burglary comprises less than 10% of the total offenses committed by those registered for five or fewer crimes, whereas it makes up 20% of the offenses committed by those with longer careers. Career patterns in burglary closely approximate patterns for property crimes in general.

Escalation and Imposed Sanction

As presented in Table 13.1, the transition matrix portraying changes in the seriousness of crime among subjects from the onset sample showed no clear tendency toward escalation or de-escalation. There was, however, some slight evidence of movement in a de-escalating direction.

A separate analysis of the full sample also shows that the great majority of the transitions in seriousness, as measured by the standard sanctioning

is dependent on the overall length of the career. Although only 66% of the offenses occurring after the tenth offense are property related for those registered for twenty-one to fifty crimes, that proportion increases to 74% for those who commit fifty-one to a hundred offenses, and to 80% for those who commit more than one hundred offenses.

options, are located on the diagonal: A total of 77% of the transitions belong to the same category of seriousness. Although only 17.4% of the transitions suggested de-escalation as opposed to 16.0% which suggested escalation, the sensitive statistical tests indicate that this small difference is statistically significant. The same is true for the transition matrix based on sanction maxima. Here the difference between number of escalating and de-escalating transitions is even greater. Judged by the scales of seriousness based on the standard sanctioning options and the sanction maxima, it would thus appear that there is a minor, yet clear *de-escalation* in the seriousness of crime as the criminal career progresses.

What is remarkable is that when the third scale of seriousness is used – the imposed sanction – the result is the opposite. When using this scale, 59% of the transitions are located on the diagonal, whereas 22.7% of the remaining transitions are in escalation and 18.5% in de-escalation. Accordingly, a minor, but also clear, *escalation* in the severity of crime occurs during the criminal career when seriousness is measured in this manner.

The disparity between the results achieved by different scales of seriousness could theoretically reflect the superiority of one or more of the scales in capturing minor changes in the nature of subsequent crime. For instance, even though the standard sanctioning options scale suggests that offenders recidivate to crimes within the same level of seriousness, there may be an increase in the aggravating circumstances of offenses as a career progresses. Such changes would be reflected by the scale of imposed sanctions, but not by the sanctioning options associated with the offense.

Another possibility is that the scale of imposed sanctions, which renders evidence of escalation, is in fact misdirecting the results. This seems more likely given the failure of previous studies to detect escalation, and could result from the fact that the imposed sanction concerns not just the seriousness of the crime, but also the criminal career of the offender, as dictated by penal code §80. An extensive criminal history may result in a more severe sanction than would otherwise have been given for a similar offense.

Thus, although there may be a general tendency for subjects to commit less serious offenses over time, *the severity of imposed sanctions may simultaneously escalate.*

Age and the Seriousness of Crime

The next question concerns whether there are different developmental patterns in the seriousness of crime *within* different age groups, and whether the seriousness of crime varies *between* age groups.

The answer is that within all age groups – with the exception of the 20- to 24-year-olds – there is a statistically significant movement toward *de-escalation*. As for the 20- to 24-year-olds, there is neither a tendency toward escalation nor toward de-escalation in the seriousness of crime. The individual crime frequency has not been taken into consideration here, so what this analysis shows is that there is a general tendency toward de-escalation in the seriousness of subsequent crime regardless of the age at which it is committed.

The study further shows that the average level of crime seriousness (as measured by the standard sanctioning options) is lower for younger than for somewhat older offenders. For those age categories that lie between 15 and 29, the average level of seriousness increases a little. Thereafter, there is a decrease from an average of 3.4 for the 24- to 29-year-olds to 2.7 for those who are 50 or older. The oldest offenders tend to commit the least serious offenses.

The study also shows that with increasing age, fewer and fewer changes in the seriousness of crime occur. Among elder offenders, it is especially likely that a great deal (83%) of the transitions from one offense to another will belong to the same category of seriousness. This corresponds to the conclusion in Chapter 12, that the tendency to repeat the same type of offense increases with age.

Gender and the Seriousness of Crime

This study has shown that women have a lower crime frequency than men. Since there is correlation between crime frequency and the seriousness of crime, it may be expected that women commit fewer serious offenses than men. This proves not to be the case. The average seriousness value for offenses committed by men is 2.92. For women it is 3.66 (as measured by the scale of standard sanctioning options). In Figure 13.7, seriousness is related to the total number of committed offenses, and it is shown that gender differences in the seriousness of crime remain constant regardless of the extent of the career.

Such differences may reflect the prevalence of male involvement in minor traffic offenses, which will reduce the average seriousness of male crime. To clarify the situation, gender-specific measures of crime seriousness are examined separately in regard to penal code offenses. Surprisingly, these results still suggest a higher level of crime seriousness among females than among males: The average level of seriousness for penal code offenses is 3.35 for males, as compared to 4.13 for females.

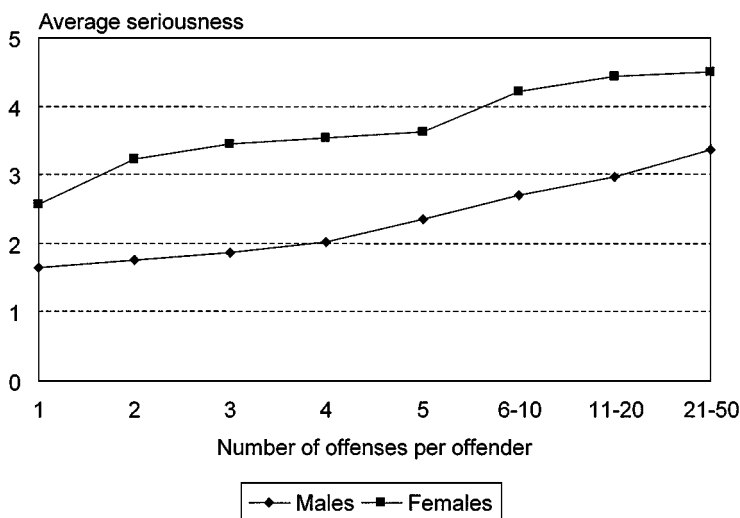


Figure 13.7. Average seriousness, measured by the standard sanctioning options, in relation to number of offenses, by gender.

This difference is undoubtedly related to the fact that vandalism and thefts for the purposes of limited use, which both have lower sanctioning options than theft in general, are more common among men, whereas a great deal of female crime involves shoplifting, which has the same sanctioning options as burglary and similar forms of property crime.

Knowledge of the types of crime most often committed by males and females provides reason to doubt that women actually commit more serious crime than men. Nonetheless, the data clearly show that females commit offenses that typically allow for higher sanctioning options than those committed by males.

Summary

The seriousness of crime is related to individual crime frequency. Subjects with shorter careers commit less serious offenses than long-term offenders.

But this does not suggest confirmation of the common assumption that the seriousness of crime increases with the extent of the criminal career. What the data show is that subjects who offend at a high rate *throughout their careers* generally engage in more serious offenses than those who commit only a few offenses. This applies to the first offense as well, since the seriousness of the first offense is clearly associated with the length of the overall career.

At the same time, the study shows that the seriousness of crime does not remain unchanged during the criminal career, but develops along patterns contrary to those commonly assumed, and differently for offenders with longer and shorter careers. For those with brief careers, a de-escalation in the seriousness of crime occurs. Later offenses are thus less serious than the first. On the other hand, for offenders with extensive criminal careers, crime seriousness escalates at first, then plateaus and de-escalates toward the end of the career. The inverted U-curve, which Chapter 8 described as characterizing patterns of individual crime frequency among the most active offenders, is hence rediscovered in the development of the seriousness of crime.

An inverted U-curve further characterizes the relation between crime seriousness and age. The crime of the very young is generally less serious than that committed by somewhat older offenders. However, the seriousness of crime begins to decrease around age 30, and the oldest offenders, who are assumed to be at the end of their criminal careers, commit the least serious offenses.

Since there is correlation between the extent of the career and its level of seriousness, it should be expected that females, who typically have less extensive careers than males, would engage in less serious forms of crime. When seriousness is measured by the scale of standard sanctioning options, the results suggest the opposite. However, a qualitative consideration of the actual types of crime that males and females commit raises some doubt as to whether the data reflect real differences in the seriousness of their offenses.

When the sample is analyzed as a whole, the study shows that the development in the seriousness of offenses (as based on the scale of standard sanctioning options) is primarily characterized by stagnation and stability. In the great majority of cases, a subsequent offense is of the same level of seriousness as its predecessor. In those cases for which a change in the seriousness of crime occurs, the tendency toward *de-escalation* is stronger than that toward escalation. When measured on the basis of the imposed sanction, the seriousness of crime is in most cases unchanged. To the extent that changes occur in the severity of imposed sanctions, the tendency is towards *more severe* rather than milder sanctions. Thus, an interesting paradox arises. Whereas a slight de-escalation – based on the standard sanctioning options – generally occurs in the seriousness of crime, a slight escalation in the severity of the sanctions rendered occurs simultaneously.

Sanctions and Deterrence

The Incapacitative Effect of Sanctions

WITHIN THE CRIMINOLOGICAL CONTEXT, incapacitation refers to any number of constraints that (typically physically) limit an individual's ability to commit crime. Such constraints include those as minor as probation and as major as capital punishment. In the current study, incapacitation will be narrowly defined as the effect of actual incarceration. Physical seclusion from the surrounding world prevents the inmate from committing offenses against the general public.

Many studies of the incapacitative effect of sanctions have been performed, most notably in the United States. U.S. research on criminal careers largely stems from an interest in identifying and predicting high-rate criminal activity in the hope that crime can be reduced by giving these offenders more severe sentences (see, for example, Blumstein, 1983; Shinnar and Shinnar, 1975; Klein and Caggiano, 1986).

This is not the basis for the present study. However, given the research attention that incapacitation has generated over the past decade, it seems fitting that such issues be examined here. Furthermore, although the Nordic countries have previously expressed political skepticism in, and dissociated themselves from, the incapacitation concept,¹ changes in opinion can be sensed in the wind.² Though lacking empirical documentation, a few Nordic

¹ Norwegian, Swedish, and Finnish crime policy statements from the late 1970s clearly state that incapacitation should not be the sole foundation for determination of sanctions (see the review in Heckscher, Snare, Takala, and Vestergaard 1980; see also the critical contributions and discussions about the significance of recidivism for the determination of sanctions at the 31st Nordic Meeting of Jurists in 1987).

² See, in particular, the discussion in Snare (1995) concerning Swedish crime policy.

researchers have even pointed to the possibility of achieving significant preventive effects through incapacitation.³

Results from the current study may stimulate further discussion of crime prevention through the incapacitation of certain offenders. It is therefore imperative to perform an empirical examination of the potential costs and benefits of such policies.

Incapacitation research can be classified according to whether it concerns the number of crimes that have been prevented through the *current* use of imprisonment or the number that could be prevented via the implementation of extended *hypothetical* sanctions. Each of these areas can be further subdivided on the basis of whether they pertain to *collective* or *selective* incapacitation. Collective incapacitation refers to a policy of extending the length of sentences for all offenders (collectively). Selective incapacitation refers to the possibility of predicting which specific offenders are likely to recidivate at a high rate and then extending sentences for those offenders only (selectively). All four themes are examined here.

Measurement of the Incapacitative Effect

The actual effect of current and former sentencing policies (discussed later) can only be *estimated*, but the effect of hypothetical sanctions can be *measured* in longitudinal studies such as this one. This is because the data include information about the date of the crime, the date of the criminal legal disposition, and the date of release from incarceration. The effect of hypothetical sanctions is then measured by adding the additional length of a hypothetical period of incarceration to either the date of the disposition, if the analysis concerns the substitution of nonconfining sanctions for confining sanctions, or to the date of release, if the analysis concerns the effect of extending a sentence of imprisonment. The number of offenses committed in the period between the date of the disposition or the date of release and the hypothetical release date can then be counted and compared to the number that would have been committed had the individual been incarcerated for the longer period.

Although the effect of shorter sentences can be estimated, this technique only allows for the actual measurement of the effect of longer sanctions.

³The Swedish criminologist Leif G.W. Persson has compiled estimates of the effect of increasing the prison population by 400% (Persson 1987). Another Swedish criminologist has suggested that increased use of confinement will reduce crime (Andersson 1987). These opinions have been strongly criticized, especially by the Norwegian legal sociologist Thomas Mathiesen, first in newspaper articles and later in his book, *Prison on Trial: A Critical Assessment* (Mathiesen, 1990).

Measurement of the incapacitative effect applies only to those individuals who were alive and residing in Denmark during the period the incapacitation concerns. Efforts have been made to correct for flaws in the data in regard to prison stays. As mentioned in Chapter 4, information is lacking about prison admissions and releases for approximately 25% of the sentences to incarceration.⁴

Assumptions

Measurement of the incapacitation effect relies on a number of assumptions. It is important to understand these assumptions since many of them are tenuous, and may result in findings that are unlikely to hold up in the real world.

First and foremost, measuring the effects of hypothetical lengths of imprisonment assumes that everything else is unchanged, that those individuals who are exposed to longer sentences are assumed to be otherwise unaffected by them. The longer periods of confinement are thus assumed not to have other, either negative or positive, effects on the individual risk of recidivism.

Measuring the incapacitation effect of longer sentences also assumes that the criminal activities of the offender are nearly predestined to be carried out at certain times in his or her life. Since the crime is thought to be tied to the age of the individual, it is assumed that it can be reduced by incarcerating the individual for a certain period of time. Thus, this estimation technique assumes that crimes that would have been committed during the period of hypothetical incarceration will actually be prevented, and not just postponed to a later time in the life of the individual.⁵

It is further assumed that the crimes that an incarcerated subject might commit would be committed alone, as opposed to with others, or, if committed with others, that those others would not commit these crimes in the absence of the incarcerated study subject.

Furthermore, it is assumed that nobody else commits the crime that the confined subject is prevented from committing. The incapacitation model

⁴ Data from the full sample suggest an average daily prison population of almost 2,700. However, Department of Prison statistics cite the average daily prison population in the study period as actually being around 3,300. Therefore, incarceration data from the current study have been corrected by multiplying by 1.24. This gives a total prison population of exactly 3,300 inmates per day.

⁵ This study has supported this assumption to some extent by demonstrating the close relationship between age and crime frequency. However, since the hypothetical increases in prison terms would probably only add a few months, it seems that the assumption of prevention over postponement may be overly optimistic. See Chapter 15.

does not take into consideration that an illegal market may exist which, like legal markets, functions according to the laws of supply and demand. This technique thus assumes (perhaps incorrectly) that incarceration of a certain group of offenders will not result in other offenders taking over the activities of the confined subject (see Joo and Ekland-Olson, 1995; Greenberg and Larkin, 1998).

Finally, the measurements assume that registered crime is entirely committed by registered offenders. Incapacitative effects are based on solved crime and known offenders. But the effect is often generalized to the large proportion of crime that is unsolved. A great deal of unsolved crime is committed by known offenders, but there is undoubtedly a sizable amount that is not.

Many of the assumptions on which incapacitation research relies are thus delicate. Since false assumptions will predominantly result in an overestimation of the incapacitative effect, the results of the current analyses should be seen as a best-case scenario where the effects of incapacitation are, if anything, exaggerated.

The Effects of Current and Past Uses of Imprisonment

The incapacitative effect of prison sentences was first investigated in an American article from 1973 (Avi-Itzhak and Shinnar, 1973). The authors discussed the effects of the then-current use of imprisonment, as they believed that the relatively mild sanctioning policies in the United States indirectly contributed to the growth of crime. It was suggested that a sizable increase in the use of imprisonment could reduce the crime level in a tangible way, although no actual data were presented to support the claim.

One of the first empirical analyses of the incapacitative effect of imprisonment indicated that reported crime had been reduced by 1 to 4% as a direct result of incapacitation (Clarke, 1975). That same study calculated the cost of preventing crime through incapacitation as quite high (approximately \$1,100 per crime in 1970 prices).

Other studies have suggested a similarly minor incapacitative effect. For example, a cross-sectional study of American index crime (homicide, rape, robbery, assault, burglary, major theft, and auto theft) found that the use of imprisonment in the early 1970s reduced reported crime in these areas by only 1.2 to 8% (Greenberg, 1975).

A few studies have, however, shown a greater incapacitative effect. A cross-sectional study of homicide, rape, assault, robbery, and burglary in New York concluded that the use of imprisonment reduced the number

of reported crimes of these types by 25% (Shinnar and Shinnar, 1975). Another cross-sectional study showed that 22% of reported robberies were prevented (Peterson, Braiken, and Polich, 1980; cited here after Cohen, 1983). However, both these studies have been criticized for methodological flaws thought to have resulted in an overestimation of the incapacitative effect (Cohen, 1983).

The American prison population quintupled between the mid-1970s to the mid-1990s, a period during which incapacitation dominated American crime policy. A study examines the effect of this policy on crime in California (Zimring and Hawkins, 1995). Calculations indicate that there was a decrease of just over three offenses per extra inmate year. A further analysis shows that whereas the increased use of confinement primarily concerned offenders over the age of 18, the decrease in crime did not occur in this group, but rather among youth under the age of 18. It is therefore concluded that there is little evidence to show that the large increase in the prison population had any relation to the decrease in crime.

The incapacitative effect of imprisonment has been calculated in two recent Swedish studies. The first, based on cross-sectional data, concludes that incapacitation reduced crime by 5 to 14%, depending on the type of crime (Ahlberg, 1990). Reported thefts, for example, are found to have been reduced by 7.2%. In the other Swedish study, which is longitudinal, the effect is calculated to be somewhat lower. Total crime, according to this study, may have been reduced by 3% via the incapacitation of offenders (Andersson, 1991). Reductions in serious or violent crime could be somewhat greater, perhaps in the area of 6%. Still, as concluded in the report, the incapacitative effect of imprisonment seems relatively minor.

The difference between the results of the two Swedish studies may have been caused by both methods and data. The cross-sectional study, which has been criticized by others (Gabrielsen, 1991; Hofer, 1993), provides a much weaker basis for its conclusions than the longitudinal study.

The current study uses a relatively crude and simple estimate of the incapacitative effect of imprisonment. We have not attempted to refine the calculation since the study is designed to give only a rough impression of the magnitude of the effect. Besides, even very refined methods of calculation do not yield clear answers since they all rely on uncertain assumptions.

Calculating the effect of incapacitation is somewhat similar to calculating individual crime frequency per year in freedom, as done in Chapter 7. The number of offenses committed by subjects who have served time in prison, plus the total time served, is calculated to determine how much crime they *could* have committed had they not been incarcerated. The crime frequency

per year in freedom is compared with the frequency per calendar year, and the difference between these two figures indicates how much crime has been “prevented” by the incarceration.

An important question in regard to this type of analysis is how long an individual should be considered criminally active and therefore included in the calculation. Should the crime frequency per year in freedom be calculated only for those years in which the individual has committed crime? Or should it be calculated for the entire study period – regardless of whether the individual has committed crime in every year? The question is important since different methods of calculation yield very different results. The first mentioned basis of calculation is narrow and probably overestimates the incapacitative effect, whereas the opposite is true for the latter method.

A cross between these two possibilities was used in the aforementioned Swedish longitudinal study, as the offender was considered criminally active and included in the calculations even though he had not committed a crime for a period of up to 2 years.

In the current study, two calculations have been performed, one for each of the aforementioned bases of calculation. Using the narrow basis of calculation, the incapacitative effect is estimated at 9.8%, whereas the result is 3.2% when using the broad basis of calculation. Adjustments for the missing prison records have been made by multiplying the original results by 1.24.

These results indicate a somewhat greater incapacitative effect than the Swedish longitudinal study. The difference may be due to the fact that the Swedish study includes only younger offenders, who relatively rarely receive sentences of imprisonment, whereas the Danish study includes all age groups. Furthermore, it is quite possible that the correction made for the missing prison records has resulted in an overestimation of the incapacitative effect of imprisonment in the Danish study.⁶

It is unlikely that any of the Scandinavian studies has succeeded in precisely calculating how much crime society avoids by incapacitating offenders through incarceration. On the other hand, there is no reason to believe that these studies yield completely inaccurate pictures of the incapacitative effect. It can therefore be cautiously concluded that crime in the Danish society has been reduced by 3 to 10% via the incapacitative effect of imprisonment. The actual amount is presumably closer to the lower than to the higher threshold value.

⁶ Missing prison records are therefore more likely to concern less criminally active individuals than high-frequency offenders. Data corrections based on this skewed subsample may therefore result in an overestimation of the incapacitative effect.

Collective Incapacitation

Up to now, this chapter has discussed the number of crimes *thought to have been prevented* through current or past uses of imprisonment. We now examine how many crimes *might be prevented* were the length of sentences to confinement extended. This question has drawn even more attention than the former. One of the earliest analyses of this type examined the effect of increasing sentences of imprisonment by 1 year for all of those already serving time in a sample of U.S. prisons (Greenberg, 1975). It was found that index crime would be reduced by 3 to 4%.

Many of the later calculations operate with hypothetical sentences of imprisonment of 5 years. It is suggested that long sentences such as this could reduce burglary and similar forms of crime by approximately 15% (Cohen, 1983). But nothing comes for free. An important element of these calculations is the growth in the prison population, which would result from the imposition of longer sentences. A collective incapacitation of 5 years for more serious offenses could result in a growth in the U.S. prison population of 300 to 500% (see also Blackmore and Welsh, 1983).

A later American study calculates not just the increase in the prison population, but also the increase in the costs of operating prisons (Haapanen, 1990). The effect of prolonging all sentences of imprisonment by 1 year is calculated to result in a 2.7% reduction in reported crime, but a prison population increase of 31%. After deductions have been made for the savings from averted offenses, the costs to the State of California of prolonging the sentences are still found to be 262.5 million dollars. According to the study's author, this number is even rather conservative.

The Swedish cross-sectional study, which only includes offenders released after having served half their sentences, calculates the effect of doubling the time served for this group (that is, the effect of actually serving the full sentence) (Ahlberg, 1990). Such a policy would prevent between 2 to 8% of different forms of crime. For theft, the reduction would be around 4%. However, doubling the time in prison for these offenders is also calculated to result in a 28% increase in the Swedish prison population (*ibid.*).

The other Swedish study measures the effect of hypothetical, mandatory prison sentences of 1, 2, and 3 years for serious offenses (Andersson, 1991). It is calculated that one year of mandatory imprisonment would prevent 15% of total crime or 24% of more serious crime. However, the fact that the collective imposition of even 1 year's imprisonment is a very radical measure is shown by the effect it would have on the prison population, which would increase by 700%.

Collective Incapacitation in the Current Study

Instead of measuring the effect of radical changes in the penal system, the current study examines changes that are more realistic within the Danish policy context. This concerns the effect of abolishing parole, of substituting actual sentences of confinement for suspended sentences, and of replacing nonincarcerating sanctions for young offenders with sentences of confinement. These hypothetical increases in sanctions constitute a policy somewhere between collective and selective incapacitation, since they do not concern all offenders, but do concern all those offenders who are sentenced with certain sanctions.

The potential results of these three changes in policy are presented in Table 14.1. The policy changes considered are described more specifically as follows:

The Effect of Abolishing Parole. Conservative political groups have periodically suggested that the institution of parole be abolished or at least made less automatic than is the case today. Since offenders sentenced to imprisonment represent an especially crime-prone group, it is relevant to attempt to measure the incapacitative effect of such a change in crime policy.

The analysis includes those who are sentenced to imprisonment of more than 90 days, the minimum sentence length for which parole becomes applicable. The difference between the imposed sentence and the actual time served is calculated for each subject. The remaining period of the sentence is added to the date of release, producing a new, hypothetical release date.

It should be emphasized that this measurement includes considerably fewer cases and shorter parole periods than may be warranted. In addition to the cases that are missing in prison records, or that have been eliminated due to death or emigration, an additional 20% of the cases are missing since it has not been possible to correct for certain aspects of the Danish sentencing structure.⁷ The analyses thus only provide a minimum measure of the effect of parole. Therefore, the costs and benefits outlined in Table 14.1 would probably better reflect reality if increased by 50%.

⁷For instance, prisoners who were formerly paroled may be required to serve the remaining portion of their former sentences if their new crimes are committed within the parole period. For example, in addition to a sentence of 6 months, a prisoner may be required to serve 30 days remaining from a previous sentence. However, this will not appear in the data used in this study. So instead of being released after 4 months, which is the normal time for parole in a 6-month prison sentence, the prisoner will be released after 5 months. Sentencing practices such as this complicate the analysis.

The Effect of Substituting Sentences of Confinement for Suspended Sentences. Political initiatives in favor of substituting sentences of confinement for suspended sentences are not currently known to exist. However, since such an initiative is far from politically impossible, it is interesting to consider how big the incapacitative effect of such a hypothetical change would be.

The length of most suspended sentences is known, which makes this measure relatively uncomplicated. The number of days indicated by the suspended sentence is simply added to the date of the disposition. In cases where the length of the suspended sentence is unknown, it is estimated to be 3 months, in which case the analysis examines the effect of substituting a 3-month term of imprisonment for a suspended sentence.

In both measurements it is assumed that the sentence is fully served.

The Effect of Replacing Nonincarcerating Sentences for Young Offenders with Sentences of Confinement. It is often contended that young offenders are dealt with too mildly and that short sentences of confinement would be better than the many waivers of prosecution and conditional sentences they now receive. This argument is based on the assumption that brief periods of confinement imposed early in a criminal career will have a deterrent effect, whereas community sanctions will only result in a perception among youth that crime is without consequences. Arguments relating to incapacitation are also used, however.

Although the deterrent effect of more severe sentencing cannot be examined here, the incapacitative effect of sentencing young offenders to confinement is explored. This issue is certainly relevant since individual crime frequency is greatest for young offenders, as described in Chapter 7. The incapacitative effect can therefore be expected to be relatively high.

The analysis concerns young people under the age of 18 who are sentenced to nonincarcerating sanctions (fine, waiver of prosecution, or suspended sentence) for violating the penal code. Within the analysis, nonincarcerating sanctions have been replaced by 6 months of imprisonment with no reductions for parole.

Table 14.1 shows that the effect of abolishing parole would reduce total crime by only 1.5%. Reductions in penal code offenses would be somewhat greater, since it is primarily these offenses that parolees commit in cases of recidivism. On the other hand, the penal code offenses that include person-endangering crimes, such as assault, sexual offenses, robbery, and arson, would not be reduced in a considerable way.

Table 14.1. *Costs and benefits of hypothetical collective increases in sanctions^a*

	Abolishing Parole	Confinement instead of Suspended Sentences	Incarceration of Young Offenders
Crimes prevented			
All offenses	1.5%	2.8%	1.7%
Penal law offenses	2.2%	4.1%	2.5%
Person-endangering crimes	1.7%	2.8%	1.6%
Costs			
Increase in prison population	+21%	+62%	+46%
Increase in cost of operation per year	+21 mio \$	+63 mio \$	+46.5 mio \$
False positives	63%	80%	75%

^a The increase in yearly cost of operation is calculated on the basis of the average cost per cell per day in 1990, which was DKK 750 (approximately U.S. \$85).

The price of abolishing parole is an increase in the prison population of 21%, which amounts to DKK 187 million (approximately USD 21 million) in additional costs of operation per year. The last line of Table 14.1 shows the number of false positives. Sixty-three percent of the parolees exhibit no offenses during the period with which the sanction has been hypothetically prolonged.

Taking costs and benefits into account, Table 14.1 shows that the relative gains achievable through abolishing parole are greater than those attainable through other hypothetical reforms.⁸ This can be explained by the fact that many inmates have previously demonstrated a high crime frequency. Table 14.1 indirectly suggests that offenders who are given suspended sentences have a considerably lower risk of recidivism. Eighty percent do not commit new crimes during the period in which they are theoretically incapacitated. The low recidivism risk is one of the major reasons they received a suspended sentence. The potential gain from incapacitating this group is thus quite minor, especially when compared to the cost of such a policy, which would require an increase in the prison population of 62%.

It might be expected that the incapacitative effect of confining young offenders would be considerably higher since the young have a higher crime

⁸ As mentioned previously, both the gains and costs associated with the abolition of parole are probably underestimated. Nonetheless, the relative effect of this hypothetical reform would, despite adjustments, remain superior to the others.

frequency than older offenders. Yet, as made clear in Chapters 8 and 9, a relatively high number of young offenders desist from their criminal career rather quickly and spontaneously. Therefore, as shown by Table 14.1, there will be many false positives if young offenders are confined for the purpose of incapacitation.

All three hypothetical changes to the sentencing structure must be said to suggest a very limited collective incapacitation effect. Such changes in crime policy can hardly be justified on the basis of the lean and uncertain potential gains involved, especially since both the economic and ethical costs of such reforms would be enormous.

Selective Incapacitation

Research projections of insignificant gains combined with dramatic prison growth have understandably yielded little support for the idea of trying to reduce crime through collective incapacitation. The more promising potential of selective incapacitation has drawn greater interest, especially in the United States. In principle, selective incapacitation offers a reduction in crime without growth in the prison population. The concept is logical: crime prevention is achieved by incapacitating only the most active and serious offenders, while the sentences of less active, less serious offenders are shortened.

The idea of selective incapacitation arises from studies showing great variation in individual crime frequency. The Philadelphia study was the first to do so, noting that 18% of the offenders committed 52% of the registered crime (Wolfgang, Figlio, and Sellin, 1972).

However, the idea of selective incapacitation also flourished in connection with the Rand Corporation studies. As mentioned in Chapter 8, these studies showed an extremely uneven distribution of offending with a very high crime frequency for a small group of inmates. The most criminally active indicated that they had committed about ten offenses per week in freedom (Chaiken and Chaiken, 1982). With the purpose of identifying and ultimately incapacitating these very active offenders, a prediction instrument was developed to differentiate between offenders with high and low crime frequencies (Greenwood, 1982). The instrument is quite simple. It is based on seven dichotomous variables concerning criminal history, substance abuse, and unemployment. Greenwood claims that if inmates are divided into high- and low-frequency offenders according to this instrument, and the sentence of imprisonment is doubled for the former group and cut in half for the latter group, not only will the level of crime be reduced by

15%, but the prison population will also be reduced by 5% (*ibid.*; see also Blackmore and Welsh, 1983).

Greenwood's prediction instrument has given rise to extensive critiques of both an ethical and methodological nature. Detractors find the scale too easy to use – and therefore also easy to abuse. Second, it has been suggested that Greenwood's instrument fosters social injustice, since it is based on arguably irrelevant factors and recommends especially harsh sentences for unemployed and substance-abusing offenders (see, among others, von Hirsch, 1988). An extensive re-analysis of the data on which the instrument is based further shows that there are quite a few methodological concerns associated with the validity of the prediction instrument (Visser, 1986). Last, but not least, the instrument is not very reliable. The rate of false positives is particularly alarming among those predicted to belong to the high-risk group. No fewer than 57% of those the instrument classified as "high risk," and who would have their sanctions doubled on this basis, in fact proved not to re-offend at high rates (Cohen, 1983; Blackmore and Welsh, 1983; Decker and Salert, 1986).

The critique of Greenwood's prediction instrument as being socially unjust has resulted in several of the more recent prediction instruments being limited to information about the criminal histories of offenders.

A retrospective study of convicted offenders in Washington, D.C., shows that individuals convicted of robbery and burglary have a particularly high crime frequency, and that a minimum of 2 years imprisonment for all convicted robbers would reduce the number of robberies by 8%, homicide and rape by 3%, and car thefts by 2% (Cohen, 1983). This gain is reportedly achievable with an increase in the prison population of only 7%. The study cautions, however, that the incapacitative effect quickly drops with the time spent in prison, and that the gain is relatively greater for minor increases in sentence length. Based on these results, which were reported during a period of relatively lenient crime policy in the United States, it was concluded that the increases in sentence lengths already implemented may have contributed to a reduction in the level of crime (*ibid.*). The author adds, however, that the results of the study should be tested in a prospective analysis. It should also be noted that the methodology used is problematic and unavoidably overestimates the incapacitation effect.⁹

A later American study based on prospective longitudinal data reaches less optimistic conclusions (Haapanen, 1990). Here it is calculated that for

⁹ The study is based on retrospectively gathered criminal histories of a sample of recidivists. The study therefore overestimates the potential gains of incapacitation in relation to the costs, since nonrecidivists, who in a prospective study might be counted as false positives, are not included in the analysis.

each extra year that the most active third of the offenders are incarcerated, an average of five offenses per inmate can be prevented. This results in a reduction of less than 2% of the total crime. Furthermore, it should be noted that this calculation assumes it is possible to make perfect predictions of the future crime frequency of offenders. Since such predictions are not, in fact, possible, a selective incapacitation strategy based on an imperfect prediction technique will obviously also mean a smaller reduction in crime. Furthermore, the study itself suggests that the use of a strict selective incapacitation strategy will mean that offenders who commit homicide, assault, and rape will be given shorter sentences than those who commit property offenses, since the former have a lower recidivism risk than the latter.

“Three Strikes” legislation has attracted much attention and resulted in research indicating its relation to a significant reduction in crime (Greenwood et al., 1994). But it has also been criticized on various methodological and ethical grounds (Auerhahn, 1999; Ezell and Cohen, 1997).

The Swedish longitudinal study also includes different calculations of the effect of selective incapacitation (Andersson, 1991). This study utilizes a prediction instrument based on the number of previous offenses, the age at which they were committed, and substance abuse. Using these three variables, a high-risk group is defined, and the effect of giving this group particularly long sentences is calculated. The study shows that if all individuals in the high-risk group are sentenced to 2 years of imprisonment, total crime will be reduced by 13% and serious crime by 17%. The prison population would more than double, however, as an increase of 117% is indicated. Furthermore, the prediction instrument used in the study is far from perfect as the rate of false positives exceeds 40%.

Selective Incapacitation in the Current Study

The current study does not attempt to develop a prediction instrument per se, but is rather based on analyses of the relationship between types and frequency of offenses. Since certain types of offenses are associated with a high activity level, the high-frequency offenders can be identified by type or number of prior offenses.

The results of the measures of selective incapacitation are presented in Table 14.2. The specific analyses performed include:

The Effect of Incarcerating Burglary and Drug Offenders for 6 and 12 Months, Respectively. Analyses have shown that individuals who commit both burglary and drug offenses are extremely criminally active (Kvysgaard, 1995b). Only 2% of the offenders in the current study are registered for both

burglary and drug offenses. Yet this small group committed no fewer than 24% of the crimes in the study and 34% of the penal code offenses. Each of these offenders is registered for an average of 45 offenses in the study period. Incapacitating this group should therefore be expected to have a substantial crime prevention effect.

Estimating the effect of this type of selective incapacitation involves a focus on offenders who have been registered for both a drug and burglary offense. Once these two prerequisite offenses have been registered, the actual sentence received on a subsequent conviction for any penal code violation is replaced with a hypothetical sentence of 6 and 12 months, respectively. If the hypothetical sanction replaces a sentence of imprisonment, the original sentence length is deducted from the hypothetical length, and the effect is measured on the basis of any remaining part of the hypothetical sanction.

The Effect of Incarcerating All Recidivating Penal Code Offenders for 2 Years. Recidivism analyses show that the risk for new crime increases with the number of prior offenses. The incapacitative effect of confining all recidivating penal code offenders for a period of 2 years thus warrants examination. Like many incapacitation analyses, the strategy tested here is totally unrealistic within both the Danish and American contexts. Nonetheless, it is important to see what kinds of gains might be attainable through this type of draconian change in sentencing structure.

Here, as before, sentence lengths actually administered are deducted from the hypothetical sanction period.¹⁰

Both of the aforementioned calculations assume that the hypothetical sanctions are fully served.

Even when looking at individuals who have committed both burglary and drug offenses, and who are known to be high-frequency offenders, the incapacitative effect of sentences to confinement is modest. Less than 2% of all crime might be prevented by using mandatory sentences of 1 year of imprisonment for this group. The relatively small effect reflects the temporal dispersion of crimes in that they are not necessarily concentrated in the period subsequent to a conviction. Furthermore, the analysis is restricted to a relatively small group of offenders. So even when the analysis concerns high-frequency offenders, it still results in only a limited crime prevention effect of incapacitation.

¹⁰ This analysis is limited to the second disposition for penal code offenses that any subject receives during the study period. The incapacitative effect of any subsequent penal code offenses is not calculated, since it would result in overlapping periods of hypothetical sentences and thus risk counting the same offense several times.

Table 14.2. *Costs and benefits of hypothetical selective increases in sanctions*

	Burglary and Narcotics Violations		Incarcerating for Recidivists, 2 Years
	6 Months	12 Months	
Crimes prevented			
All offenses	0.7%	1.2%	12%
Penal law offenses	1.0%	1.7%	22%
Person-endangering crimes	0.8%	1.1%	14%
Costs			
Increase in prison population	+12%	+22%	+320%
Increase in cost of operation per year	+12 mio \$	+22 mio \$	+324 mio \$
False positives	50%	33%	36%

The group that received hypothetical sentences of two years of incarceration following their second penal code violation is quite large. It includes just over 10% of all offenders in the sample. Incarcerating this large group for a period of 2 years will inevitably have a relatively strong incapacitative effect. The analysis shows that 12% of all offenses, and 22% of the penal code offenses, can be prevented through such a program. But the costs of incarcerating such a large group for such a long time are extremely high: The prison population would grow by more than 300%, and resources for correctional services would require an increase of nearly three billion DKK (approximately 324 million U.S. dollars).

Table 14.2 shows that the forms of selective incapacitation tested here result in a lower number of false positives than the collective incapacitation strategies tested previously. The prediction is still, however, far from perfect. Thirty-three to 50% of those whom the hypothetical sanctions concern are not registered for new crime during the period of hypothetical incarceration.

It may be argued that the selective incapacitation concept is only partly tested here, since there is no complementary, hypothetical reduction in sentences given to low-risk offenders. Nonetheless, on the bases of this and previous research, it seems safe to conclude that the potential effect of the selective use of long sentences of imprisonment is limited. Given the relatively short sentences of imprisonment used in the Danish penal system, as mentioned in Chapter 6, it would be difficult to achieve a selective incapacitation effect without a significant growth in the inmate population. Furthermore,

the ethical problems associated with the use of prediction instruments must be taken into consideration. Incapacitation of high-risk offenders inevitably results in social selection, as it is typically those individuals with the greatest social difficulties and substance abuse problems that have the highest recidivism risk. With selective incapacitation, those who have the most difficult life conditions will also risk the most severe sanctions.

The Effect of De Facto Selective Incapacitation

Although the concept of selective incapacitation, as described above, is fairly new, it has long been practiced in a de facto sense by the existing penal system. The determination of sanctions involves not just the seriousness of the offense but, according to the Danish penal code section 80, also the “personal and social conditions” of the offender. Until 1973, section 80 included a direct reference to the criminal record of the offender. This is no longer the case, but it should not be assumed that prior criminal history is unimportant in the determination of sanctions, only that the importance of criminal history has been given a lower priority (Greve, Larsen, and Lindegaard, 1989, pp. 310 ff.).

The social conditions of the individual can be particularly important for deciding whether the offender should have a suspended sentence instead of a prison sentence. New forms of sanctions, such as community service, promote de facto selective incapacitation, since unemployed offenders, and those who abuse alcohol or narcotics, will rarely be found suitable for alternatives like community service (Report no. 1211, 1990; see also Kyvsgaard, 1995a).

Parole policies also promote de facto selective incapacitation in the Danish penal system. Individuals with high risk of recidivism will often be denied parole, whereas first-time inmates with good social conditions can be paroled ahead of schedule.

The circumstances described above, which influence the determination and execution of the sanction, result in pronouncedly different outcomes for groups with different social and criminal backgrounds. Studies of the social histories of offenders show great differences between those who are sentenced to the most severe sanctions and those who receive milder punishment (Kyvsgaard, 1991). Furthermore, studies of recidivism indicate that the courts and correctional authorities are able to identify offenders with high and low recidivism risk, as illustrated by Table 14.3.

Decisions made by different authorities within the penal system can – directly or indirectly – aim at giving the most severely socially disadvantaged

Table 14.3. *Recidivism rates for different groups of offenders^a*

Status	Percent Recidivating
Denied parole	83
Parole	50
Parole ahead of schedule	32
Suspended sentence	38
Community service	17

^a This table is based on a study published in the 2000 yearbook of the Prison Services. Recidivism is defined as conviction to a sanction higher than fine. The period of observation is 2 years.

and criminally strained offenders the longest sentences of imprisonment, whereas the less disadvantaged receive nonconfining sanctions or early release. This is what characterizes selective incapacitation.

The question is what effect this *de facto* form of selective incapacitation has. The question is not examined in the current study, but the Swedish longitudinal study takes up the issue (Andersson, 1991). That study shows that individuals who have different risks of recidivism do, in fact, serve sentences of very different lengths.¹¹ If the penal system determined sanctions without regard to recidivism risk, the level of crime would increase by 3.3%.¹²

There is reason to assume that the Swedish calculation of the effects of current levels of incapacitation is too high.¹³ Given this, together with the great similarities between the Nordic penal systems, it can be cautiously concluded that the *de facto* form of selective incapacitation operating within the Danish penal system reduces crime by no more than 3%.

Summary

Studies of individual crime frequency can leave the impression that it is possible to prevent a significant amount of crime by incapacitating offenders through incarceration. However, when this assumption is tested empirically, it shows that the effect of incapacitation is quite small.

¹¹ The division into risk groups is done by utilizing the prediction instrument discussed earlier.

¹² An American study also shows that individuals with different criminal histories do, in fact, serve sentences of different lengths (Janus 1985).

¹³ The calculation of the *de facto* selective incapacitation effect probably fails to consider that differences in sentence lengths for the same types of crimes are not only related to differences in criminal strain, but also reflect differences in criminal history and in the seriousness of crimes committed.

Collective or mandatory increases in the severity of sentences, even when of a considerable magnitude, will prevent only a very small amount of crime. At the same time, the costs of collective incapacitation are extremely high.

Selective increases in the severity of sentences, that is, increases for some offenders but not for others, presumably yield higher gains in comparison to their cost. Yet, the hypothesis that it is possible – without cost – to achieve a greater incapacitation effect through the selective use of imprisonment seems scarcely realistic, particularly within the Danish penal system. Selective incapacitation will probably always result in significant costs.

In addition to the material costs there are costs of an ethical nature. Increases in sanctions, which are implemented solely to reduce recidivism, will undoubtedly affect many offenders who would not have repeated their crime, as prediction of recidivism is far from accurate. Furthermore, there is a risk of selective incapacitation resulting in particularly severe sanctions for those who have the most difficult social conditions.

It is important to emphasize that empirical tests of hypothetical incapacitation policies, such as those described here, rest on a number of assumptions that tend to overestimate incapacitation effects. As is shown in the next chapter, incapacitation effects sometimes measurable after the sentence can prove elusive over time.

Concrete lessons available from the United States also raise doubts as to whether substantial increases in imprisonment have had any significant crime-reduction effects (Reiss and Roth, 1993; Zimring and Hawkins, 1995).

Attributes of the criminal career described earlier in this study require us to think twice about potential gains of incapacitation. Both individual crime frequencies and crime severity decrease during the latter part of the criminal career, which typically corresponds to the time at which incapacitation through imprisonment is most often inflicted.¹⁴ Evidence of this is shown in Chapter 13, which demonstrates that an escalation in the severity of sanctions occurs parallel to a de-escalation in the severity of crime.

Rather than focusing on its crime prevention potential, incapacitation research has tended to emphasize the limited effects and ethical problems which incapacitation generates as a crime control policy. Such research also draws attention to related areas of critique within the current penal structure, a system whose use of offender's social and criminal histories for

¹⁴ It has been suggested that a substantial incapacitation effect can only be obtained through the incarceration of very young offenders. However, this is – from an ethical point of view – considered to be an unrealistic crime policy (Gottfredson and Hirschi 1990). The current study's analyses of incapacitation, which include young offenders, also indicate that the gain of such a policy would be limited.

determination of type and length of sanction, as well as possibility of parole, results in a *de facto* form of selective incapacitation.

Issues such as these become especially important during times of increased social polarization. If a growing part of the population feels excluded from the possibility of participating in ordinary social life, the costs to social capital, which the threat of apprehension and sanction entail, will presumably be reduced. Under such circumstances incapacitation might become a more popular strategy. The implementation of draconian crime control policies can thus be seen as the answer¹⁵ to a sense of powerlessness felt by the dominant class toward citizens who are very criminally strained and live under especially difficult social conditions.¹⁶

¹⁵ This tendency is reflected in an increase in the number of inmates who are denied parole, which has more than doubled since 1980.

¹⁶ See David Garland's analysis of the different aims and techniques of the penal system. In Garland's terminology, this corresponds to an increase in the "segregated sector: "those who have refused or have been unable to submit to the discipline of the dominant social order" (Garland 1985, p. 241).

The Deterrent Effect of Sanctions

THE DATA this study is based on provide few opportunities for examining sanction effects other than those derived from incapacitation. Nonexperimental studies require a high number of individual-level variables to estimate the effects of sanctions, as it must be ascertained that offenders who are sentenced to different sanctions are actually comparable in regard to those factors that influence recidivism risk. The techniques used in such ex post facto studies are difficult, and even the best research often gives rise to debate and doubt over the validity of the results (see Börjeson, 1966; Elmhorn, 1966; Quensel, 1966; Bondeson, 1977, 1986, and 1987; Köhlhorn, 1987). For instance, one can never be certain whether the researcher has taken into account precisely those conditions that have caused comparable offenders to receive different sanctions – conditions that can also influence the risk of recidivism.

As mentioned in Chapter 6, legislation aimed at lowering the level of sanctions for certain crimes took place within the study period. It is therefore possible to examine the effects of this change. Opportunities such as this are referred to as natural experiments, since, if no significant social changes occur at the same time, it can be assumed that offenders sentenced after the change are comparable to those sentenced before.

This chapter is titled “The Deterrent Effect of Sanctions.” In principle, however, it could also be “The Rehabilitative Effect of Sanctions.” The preventive effect that sanctions are assumed to have or to be capable of having, can thus be caused by either deterrence or rehabilitation – or both. The effect of the severity of sanctions, as measured by sanction length, is typically

linked to deterrence. Deterrence was, in fact, the fundamental topic of debate following the change in the law.

The Change in the Law

In the spring of 1982, the Danish Parliament passed a bill changing the sanctioning options in the penal code for most property crimes. Both the sanction minimum and the sanction maximum for these offenses were lowered.

The change in the law was clearly and unambiguously aimed at "a considerable lowering of the level of sanctions for property crimes [...] generally by one-third."¹ The primary goal was "a restriction in the use of confinement,"² a policy largely motivated by the perceived inability of the prison system to support the incessant growth of the incarcerated population. This fact was openly admitted in the comments accompanying the proposed bill.³ During the period before the change in the law, the waiting list for serving time had grown excessively, and there was no cure in sight for the situation. The capacity problem therefore necessitated a solution, and decriminalization was chosen rather than expanding the prisons. It was calculated that the change in the law would result in a maximum decrease of 340 beds.⁴

To implement the intentions of the change in the law, it was decided to grant early release to those who were sentenced to unconditional imprisonment for property crimes, but who had not served their full sentences when the law took effect on July 1, 1982. The Ministry of Justice authorized The Department of Prisons and Probation to lower the sentences for these individuals by up to one-third.

Early release also benefited those who had already served a part of their sentence. According to correctional authorities, 321 inmates were released in the days just following the enactment of the law (*Kriminalforsorgen*, 1982). By June 20, 1983, the number of inmates out on early release had risen to 1,978.

The new law resulted in a lively media debate, especially because of critiques leveled by the Association of Public Prosecutors. The Association was first and foremost concerned about the increased workload that the change would result in. This critique was later followed by a study of recidivism among those offenders who were released in the days surrounding July 1, 1982 (Evensen, 1982; see also *Kriminalforsorgen*, 1982, pp. 11 ff.).

¹ Comments accompanying the proposed bill (in Danish). *Folketingstidende* 1981-2, 2. samling, tillæg A, sp. 4521.

² *Ibid.*

³ *Ibid.*, sp. 4522-3.

⁴ *Ibid.*, sp. 4530.

The study was used to show that a large proportion of the offenders who had their sentences shortened had committed new crimes within 6 months of their release, resulting indeed in additional work for the judicial system.

In reality, however, the recidivism study did not provide a satisfying assessment of the changes that took place since it lacked the data necessary to compare the recidivism outcomes of released offenders with those who did not have their sentences shortened. The necessary data were not available then, but the current study contains information about all offenders both before and after the change in the law, and thus allows for a definitive assessment.

The Sample

The implications of more lenient sanctions for continued criminality are examined by comparing three groups of individuals, all of whom received sentences of imprisonment for offenses included under the 1982 change. The three groups include the following:

1. individuals who were convicted and released *before* the 1982 reform (hereafter referred to as “Before 1982”)⁵
2. individuals who were convicted *before* the 1982 reform, but released *after* it took effect, and who are thus assumed to have been released early (hereafter referred to as “Early release”)⁶
3. individuals who were convicted and released *after* the change in the law (hereafter referred to as “After 1982”)⁷

The following analysis examines the amount and types of crime committed after release by individuals comprising these three groups. Analysis is limited to those subjects who were still alive and living in Denmark for the full 6-year period of observation after release. The data have been cleared of “repeats” (individuals who appear more than once in the separate groups). If the individual has multiple sentences that fulfill more than a single criterion defining the groups, only the first one is included in the sample. This is done to avoid including the same criminal acts more than once in the recidivism measurement. Table 15.1 describes the three groups.

⁵ More specifically, these are individuals who were convicted in the period from January 1, 1979, to December 31, 1980, and who had served their sentences before June 1, 1982.

⁶ These are individuals with a sentencing date before July 1, 1982, and a release date after June 27, 1982 (the discrepancy in dates reflects the fact that those who were to be released early on July 1, 1982, could be released up to 3 days sooner).

⁷ This group consists of individuals who were sentenced after July 1, 1982, and who had served their sentences before January 1, 1985. The upper limit is imposed on the basis of the period of observation, as described in the following analyses.

Table 15.1. *Characteristics of the three groups compared*

Characteristic	Before 1982	Early Release	After 1982
Number of sentences	201	80	192
Average sentence length – days	219	260	165
Average length of incarceration – days ^a	166	172	119
Percent of sentence served	75%	66%	72%
Average age at time of conviction	26 yr., 6 mo.	27 yr., 7 mo.	27 yr., 3 mo.
Percent female	8%	4%	6%
Percent of sentences for burglary	58%	46%	58%

^a Time served may also include any remaining sanction. It is not possible to see precisely what proportion of the current sentence has been served.

There are fewer individuals in the different groups than one would expect based on the information from the crime statistics. This is due to three circumstances. First, an individual is included only once in a group. Second, the sample includes only individuals who were alive and living in Denmark 6 years after release. And third, the erroneous prison data, as described in Chapter 4, reduce the size of the sample. These three restrictions reduce the sample by at least 50%. However, since these factors systematically influence all three groups, there is no reason to assume that this should bias the results of the study.

There has been much discussion about whether the 1982 change in the law resulted in the intended reduction in the severity of sanctions. After reviewing statistics reflecting average sentence length, the Penal Code Council concluded “that it is difficult to see significant changes” (Report no. 1099, 1987, p. 115 [in Danish]). On the other hand, another calculation based on information from the crime statistics, but taking shifting between different sanctions into consideration, shows a decreased sanctioning severity in the years right after the reform (Kvysgaard, 1989a). The current study also shows a reduction of 25% in the imposed sanction length from “Before 1982” to “After 1982” (see also Kriminalforsorgen, 1983, p. 8).

Table 15.1 also shows that release is generally advanced by less than the expected one-third, partly because some had served a longer part of their sentence before the possibility for early release came into effect.⁸

Data on age, gender, and most recent type of offense indicate that the groups are comparable. Therefore, there is no immediate indication of

⁸ Fifteen percent of the individuals in the group were released in the days immediately surrounding the implementation of the change. This corresponds with the information given by the Department of Prisons and Probation.

dissimilarities between the groups to create an expectation of different recidivism risks.⁹

Number of Recidivists

The recidivism study commissioned by the Association of Public Prosecutors showed that 62% of those released in the days surrounding July 1, 1982, were charged with a new crime within 6 months (Evensen, 1983). This study was followed up by the Department of Prisons and Probation that, in collaboration with the Commissioner of Police, measured the recidivism of the group on an ongoing basis. By mid-May 1983, just shy of eleven months of release, slightly more than 70% had been charged with new crime (Kriminalforsorgen, 1982, p. 12). However, it is problematic to use charges as a measure of recidivism since, as mentioned in Chapter 4, many charges do not lead to a criminal legal disposition.

In the current study, recidivism is defined as any new registered offense in the observation period. Recidivism includes both penal code crime and traffic and special code offenses.¹⁰ All temporal calculations are based on the time of the crime, and not – as is often the case – the time of the charge or disposition.

For the group with early release and for those who were sentenced after 1982, recidivism is measured for a somewhat longer period than 5 years. Observation is extended for these groups to capture recidivism that may have occurred during the maximum period by which their sentences could have been shortened. Extended observation is indicated in both Figure 15.1 and Figure 15.2 by a (+) after the 5-year observation period.

Figure 15.1 shows that recidivism often occurs shortly after release, regardless of whether the release is advanced or not. Approximately half of the individuals in all three groups have committed new crime during the first 6 months after release. After the first 6 months, as well as after longer periods of observation, there is very little difference between the recidivism rates of the groups. None of these differences is statistically significant, hence they may be assumed coincidental.

This analysis thus provides no evidence that early release has caused a particularly high recidivism frequency, or that those convicted after the change in the law repeat to a higher extent than those convicted before the change.

⁹ It has not been possible to compare the long-term criminal histories of the groups, as the study does not include information prior to January 1, 1979.

¹⁰ The recidivism criterion used in the current study is considerably more inclusive than that used in the studies by the Department of Prisons and Probation. This means that the number of recidivists becomes higher.

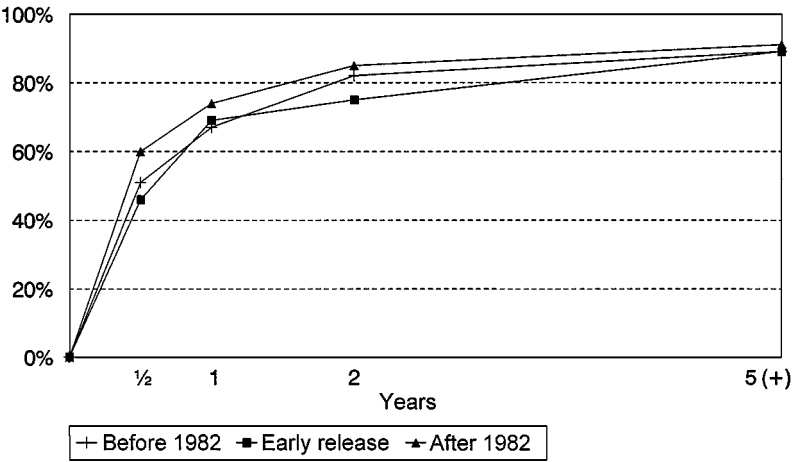


Figure 15.1. Cumulative recidivism measured in the three groups after 6 months and 1, 2, and 5 years.

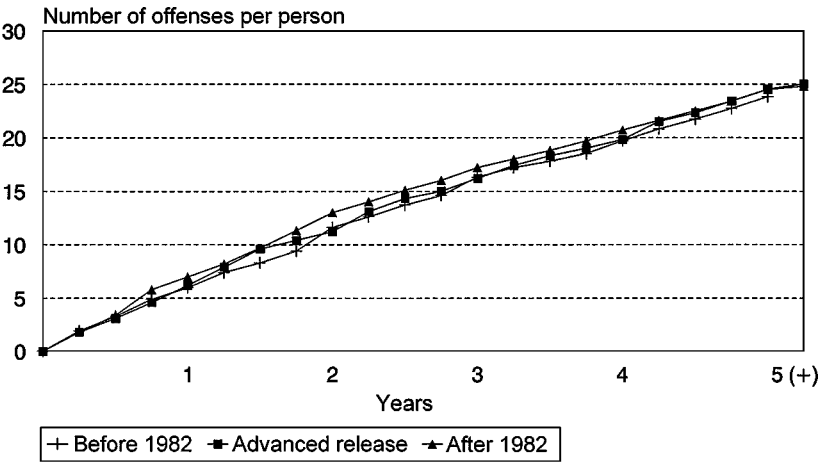


Figure 15.2. Cumulative number of new offenses per person in the three groups.

The Extent and Celerity of Recidivism

Another measure of the significance of the reform is the extent of recidivism. It could be that behind the similar patterns in Figure 15.1 lie great differences in the number of times recidivating offenders in the three groups commit new offenses. This has been examined by calculating the number

Table 15.2. *Types of recidivism in the three groups*

	Before 1982, Percent	Early Release, Percent	After 1982, Percent
Penal law offenses	81	79	76
Traffic law offenses	10	12	13
Special laws	9	9	11

of criminal acts per person at different times over the observation period. The celerity of recidivism is thereby also indicated.

Figure 15.2 also shows a very similar recidivism trend for the three groups. The minor fluctuations which exist are random and far from statistically significant. This is true even when the prolonged follow-up period for the two groups with reduced prison sentences is considered.

It is at first glance surprising that Figure 15.2, compared to Figure 15.1, does not show a clear deceleration in new offenses between 6 months to one year. There are, however, differences. The average number of criminal acts per person is six or seven the first year after release, after which it slowly decreases to approximately four per person per year. Since the number of recidivating offenders increases as time progresses, as shown in Figure 15.1, criminal activity per recidivist must decrease quite a bit. This is not apparent, however, in Figure 15.2, in which criminal activity is indicated in proportion to all individuals in the group.

Seriousness of Recidivism

The type of crime committed by recidivating offenders provides another measure of the effects of the penal reform bill passed in 1982. This measure is important to include in the analysis, since the three groups – although similar in terms of prevalence, frequency, and celerity of recidivism – can differ in regard to the seriousness of crime committed in the observation period. For example, if one of the groups commits mostly traffic code offenses, while another commits primarily violent attacks and robberies, there is reason to talk about qualitative differences in recidivism.

Table 15.2 shows that the differences between the groups are small in regard to the type of recidivism. The proportion of the three groups' crime that can be characterized as person-endangering has also been examined. It turns out that 2 to 4% of the recidivism fall into this category (which includes robbery, arson, and physical and sexual assault).

In summation, there appears to be little difference in the types of recidivistic crime committed by groups of individuals who have served sentences of different lengths.

Incapacitation

The study also includes a measure of how many crimes went unprevented as a consequence of reductions in incapacitation. This is the question of how much crime those with early release and those convicted after the reform commit in the period they *would* have been incarcerated had the change in the law not been implemented.

It has been calculated that if the intention of the reform had been implemented to the letter, and the sanction periods were really reduced by one-third, it would have increased the total (solved) crime by only 1 or 2%. This result is exaggerated, however, since the sentences were not reduced by the anticipated one-third. Moreover, the study shows that the increase in crime which results from a weakened incapacitative effect disappears over time, as shown in Figures 15.1 and 15.2, where recidivism is measured for the prolonged follow-up period – the maximum time they would have been incapacitated – for the two groups in question (for more about this measure of incapacitation, see Kyvsgaard, 1995c). Therefore, it appears that the number of offenses committed during early release do not suggest real differences in crime frequency when measured over somewhat longer periods. As described in Chapter 14, incapacitation research assumes that extended confinement does not result in crime merely being delayed, but actually prevents the crime that would have been committed by the incarcerated individual. The current analysis suggests that this assumption is incorrect, at least for minor reductions in sentence length, as is the case here.

It should be added that the shortening of sanction periods has resulted in an actual decrease in the need for prison beds. It has been calculated that a 25% reduction in the length of prison sentences for property offenses, such as that observed in this study, reduces total prison enrollment by 7%.

Other Research on Specific Deterrence

The results generated in this study of the effect of shortening sentences are not surprising. Based on other research it would have been very surprising had differences been found between the deterrent effects of different sanction lengths. In evaluating the results of this study it must also be taken into consideration that the difference in the duration of incarcerations before

and after the 1982 reform is quite small. The study shows that the difference, on average, is just under 2 months. It seems almost obvious that such a small difference in sentence length could not be expected to have a significant influence on recidivism.

The question remains, however, whether greater differences in the severity of sanction might modify the deterrent effect. Since there are substantial ethical problems associated with experimenting with sentence length, this question is typically examined through nonexperimental studies. One experiment is known to have taken place. It is from California and was carried out in the early 1970s. An experimental group of randomly selected male convicts was released 6 months before the control group, which was released at the normal time of parole (Berecochea, Jahan, and Jones 1973, hereafter Kyvsgaard, 1978). The average time served by the experimental group was 31.5 months compared to 37.9 months for the control group. The effect of the different sentence lengths was measured in relation to both recidivism and a number of other behavioral variables. However, none of the measurements showed any differences between the experimental group and the control group during the 1-year observation period.

Evaluation studies have also utilized the natural variations that sometimes exist in the determination of sanctions between, for example, different areas or different time periods. An American study from around 1970 took advantage of the very arbitrary and unsystematic parole practices that existed in its study jurisdiction at that time (Babst, Koval, and Neithercutt, 1972). The study, which includes only individuals convicted for burglary, examines three groups: those who had served up to 1 year in prison, those who had served 1 to 2 years in prison, and those who had served more than 2 years. Within these three groups recidivism was compared for those subgroups who, based on their prior criminal records and social history, could be assumed to have the same recidivism risk. The study showed that the recidivism rate within the subgroups did not vary with the length of time served. A somewhat similar method is used in a subsequent American study (Beck and Hoffmann, 1976). The three groups compared here had, on average, served 12, 21, and 39 months in prison. Over the 2-year observation period there were no differences in the groups' recidivism frequencies.

Early release has at times been implemented in the United States, as in Denmark in the early 1980s, due to overcrowding in the prison system. From 1980–3, the State of Illinois released more than 20,000 inmates on advanced parole, a reduction of 12.5% of its prison population (somewhat greater than the reduction resulting from the Danish reform). These Illinois inmates also received somewhat greater reductions in their prison sentences, generally in the area of 105 days. On the basis of this natural experiment, a study

concludes that early release does not produce a greater risk of recidivism than does standard parole (Austin, 1986). The study refers to several previous investigations of the same phenomenon that have yielded similar results.

These American studies indicate that changes in the length of sanctions have little effect on recidivism frequencies. A major review of the literature on American studies of the specific deterrent effect of sentence length also concludes that a shortening of the time served in prison through early parole does not increase the risk of recidivism (Lipton, Martinson, and Wilks, 1975, p. 82). In addition, it is pointed out that shorter sentences of confinement, as initially handed down, do not result in greater recidivism than somewhat longer sentences of confinement (*ibid.*, p. 88). The report also notes that some studies exist which show that very long sentences to confinement do result in lower recidivism than shorter or medium-length sentences (*ibid.*, p. 83). It has not been possible to examine the studies on which this conclusion is based. That would be desirable since the review leaves the impression that these studies suffer from methodological problems. A more recent German study arrives at the opposite conclusion. It suggests that the criminal career is extended through longer sentences of imprisonment (Hermann, 1991). An American study also points to a risk of a negative specific deterrent effect of penal interventions (Shannon, 1988).

Some Scandinavian studies of the specific deterrent effect of the severity of sanctions, based on nonexperimental designs comparing subgroups of offenders with similar recidivism risks, also show a negative effect of severe sanctions. A Swedish study compares both different forms of sanctions and different sentence lengths (Börjeson, 1966). It is here shown that nonincarcerative sanctions result in less recidivism than sentences of imprisonment. As for the effect of shorter versus longer sentences of confinement, no differences in the recidivism frequency can be shown for the first 2 years following release, but after 3 years significantly *less* recidivism is found among those with longer sentences of confinement than among those with shorter ones (*ibid.*). However, this result should be considered in light of the primary finding that confinement may lead to a greater risk of recidivism than nonconfining sanctions. A similar negative deterrent effect of severe sanctions has been shown by another Swedish study (Bondeson, 1994; see also Bondeson 1989).

More recent studies of the deterrent effect of sanctions typically examine the differential effect of deterrence, as discussed below, or the effect of novel or "alternative" forms of coercive treatment. Military style boot camps, shock probation, and shock parole, for instance, have been the object of research. Such programs are specifically designed with the expectation that they will have a greater deterrent effect than ordinary incarceration or ordinary

probation and parole. Research thus far, however, has not given cause for optimism (see, for example, National Institute of Justice, 1994; MacKenzie et al., 1995; the overview in Sherman et al., 1998). Overall, the studies show that there is no difference in the recidivism rates of those who have participated in boot camp programs and those who have served time in prisons. Some boot camps appear more successful than others. Positive results have not been achieved in boot camps where military style discipline is the only new element, but are limited to boot camps where intensive treatment and supervision are included as significant facets of the overall experience. Thus, there is good reason to believe that it is this part of the approach that has had a positive effect.¹¹

Although there are exceptions to the rule, it is rare to find support for the hypothesis that more severe sanctions will result in lower recidivism risks than milder sanctions. It is easier to find support for the opposite conclusion. This is confirmed by a recent meta-analysis, which includes more than 400 effect studies. It shows positive effects of many treatment and support programs, as described in Chapter 16. The only types of programs which yield negative results are those in which the crime prevention effect is sought through ever more restrictive sanctions and reliance on their deterrent effect (Lipsey, 1995; see also Lipsey, 1992b).

The General Deterrent Effect of Sanctions

Both in research and conceptualization, specific and general deterrence are usually distinguished, even though both areas concern the deterrent effect – in addition to other possible effects – of sanctions. General deterrence concerns the effect of *the threat of sanctions on all potential offenders*, whereas specific deterrence concerns *the effect of the concrete sanction on the punished*. General deterrence is assumed to be what deters people from *committing crime at all*, whereas specific deterrence is assumed to be what deters offenders from *committing new offenses*. In practice, however, the two effects can be difficult to separate, as both the threat of sanctions and the sanction itself may influence the likelihood of *re-offending*.

From a criminal policy perspective, increases in sanctions are typically motivated by an expectation of an increased general deterrent effect, whereas – at least within the Danish context – policy makers rarely expect an increased specific deterrent effect. Questions regarding the general deterrent effect

¹¹ This was suggested at a conference in London, November 1995, by Doris Layton MacKenzie, who is the researcher with the greatest knowledge of the area.

of sanctions are therefore of greater policy importance than those regarding specific deterrence. Since a detailed review of the research on general deterrence is far beyond the scope of this work, only a brief overview of relatively recent literature will be given.

The empirical research on general deterrence is traditionally divided into the effects of the *certainty*, and the *severity* of sanctions.¹²

The effect of the certainty of sanctions concerns the risk of being convicted. In reality, it is very difficult to separate the risks of being convicted from those of being detected, since the probability of detection will clearly influence the probability of conviction. Therefore, studies concerning the certainty of sanctions indirectly concern the certainty of detection, and are thus difficult to differentiate from the broad range of studies on the deterrent effects of various modes of policing or situational crime prevention more generally. These studies all attempt to answer the same basic question: Does the risk of being caught and/or convicted influence the likelihood of committing an offense?

It seems quite obvious that the answer to this question would be affirmative, and that deterrence should therefore be effective. Yet empirical research does not always confirm this view. Survey studies have been conducted in which individuals are asked to indicate whether they would commit a crime under specified circumstances. Some of these studies suggest that the certainty of sanctions plays a significant role (see, for example, Marianne and Gary, 1987; Miller and Anderson, 1986; Paternoster, 1987; Paternoster, 1989), whereas others find little or no relation between the risk of detection and criminal offending (Schneider and Laurie, 1990; Schumann and Kaulitzki, 1991; for a study on offenders' decision making, see Wright and Decker, 1994).

Although it may seem obvious that the risk of detection or conviction would exert at least some influence on the probability of offending, it is often difficult to demonstrate a general deterrent effect based on increased risk. A recent review of studies looking at the correlation between rates of conviction and criminality concludes that most studies find a negative relationship (von Hirsch et al., 1999). The authors emphasize, however, that although the finding of a negative association supports the hypothesis of a general deterrent effect for sanction certainty, the research examined is limited in its ability to prove that the correlation is causal rather than spurious. In addition to raising questions about rival causal factors, the simple finding

¹² The effect of the celerity with which the sanction is initiated also belongs to this research theme, but is seldom in focus and will not be discussed here.

of a negative correlation is always subject to debate given the nonfalsifiable alternative that displacement effects may be responsible for any apparent general deterrent effects of increased risk.

The general deterrent effect of the *severity* of sanctions would also seem obvious. If extremely harsh sanctions, such as life imprisonment, were given for violating the speed limit or other traffic regulations, it would certainly seem likely to reduce the frequency of these offenses. However, since such draconian measures are thoroughly unrealistic, the real question is how more realistic changes in sanction practice might influence behavior.

The specific sanction giving rise to the most research on general deterrence is one which does not exist within the Nordic context, but is practiced elsewhere: the death penalty. The primary justification for the use of capital punishment in countries such as the United States is the assumption that its deterrent effect is greater than that of life in prison. There is research supporting this assumption. A study by Ehrlich (1975) is often cited as having been instrumental in the 1976 reintroduction of the death penalty in some states in the United States. Ehrlich's study has been criticized, however, for significant methodological flaws which may have led to unreliable results (see, for example, Bowers and Pierce, 1975; Zimring and Hawkins, 1986; Andenæs, 1977). Furthermore, most research on the general deterrent effect of the death penalty shows that capital punishment provides little deterrence above and beyond that of life in prison (see the review in Blumstein, Cohen, and Nagin, 1978; Zimring and Hawkins, 1986; Peterson and Bailey, 1991; Sorensen et al., 1999). Some of the latest research in the area even shows a *negative* general deterrent effect (Bowers and Pierce, 1980; Cochran, Chamlin and Seth, 1994; Cheatwood, 1993; Thomson, 1997; Bailey, 1998), suggesting that the death penalty may, in fact, lead to more homicides than would be committed if society's most severe punishment was imprisonment. This is explained as a "brutalization effect," in which the government's use of the death penalty implies that it is legal and ethical to kill those who have offended (Bowers and Pierce, 1980; Cheatwood, 1993). Such research goes on to suggest that the use of very harsh sanctions may involve a risk of promoting rather than subduing crime.

Research concerning the general deterrent effects of the severity of sanctions other than the death penalty is relatively limited. An expert panel appointed by the American National Academy of Sciences in 1978 to report on the general deterrence of the penal system was extremely cautious in concluding anything based on the existing research (Blumstein, Cohen, and Nagin, 1978). They concluded that the scientific foundation was insufficient to give a competent opinion on whether changes in the level of sanctions influence the level of crime. At the same time, a summary of

research in the area by a former professor in criminal law at the University of Oslo, Johannes Andenæs, was decidedly less reserved. Despite Andenæs' well known reputation as a zealous advocate of the general preventive significance of the penal system, he declared: "The belief in some circles that an increase in sanction levels or in police presence automatically leads to less crime, appears...clearly unrealistic" (Andenæs, 1977, p. 95 [in Norwegian]). A similar conclusion was reached by the Danish criminologist Karl O. Christiansen in 1975, also based on a review of then existing research in the area. "It seems safe to conclude that the influence of the severity of penalties is surpassed by the impact of a number of other factors" (Christiansen, 1975, p. 65).

These conclusions are supported by subsequent research. It is typical that research showing some effect of detection risk does not find an effect of the severity of sanctions (Marianne and Gary, 1987; Miller and Anderson, 1986; Paternoster, 1989; Schumann and Kaulitzki, 1991; see also Schneider and Laurie, 1990; Paternoster, 1987). A Finnish analysis of variations in the level of sanctions over time for different types of offenses has also failed to find a correlation between sanction severity and offending (Lappi-Seppälä, 1995). A new Finnish study has also found no significant impact on Finnish crime rates of an enormous decrease in the use of imprisonment (Lappi-Seppälä, 2000). A similar conclusion is drawn in an analysis of crime trends before and after the lowering of sanction levels for property crime in Denmark in 1982 (Balvig, 1984b). The most recent review of literature on the deterrent effect of the severity of sanctions concludes that there is very little and very uncertain evidence of the crime preventive effect of increasing severity of punishment (von Hirsch et al., 1999).

The Extralegal Effects of Sanctions

The failure of research to identify a clear and consistent impact of sanction severity on criminal deterrence has led to confusion and even cynicism in a public that would clearly expect such an effect. However, criminologists have often failed to explain that conviction and punishment entail far more than the obvious costs to freedom or finance, and that these extralegal costs may, in fact, be more effective deterrents to crime commission than legal penalties.

Criminal sanctions have a high degree of symbolic meaning tied to people's mutual evaluations of and reactions to crime. Crime may thus not only involve a risk of formal legal penalties, but can also result in informal sanctions: condescending stares, gossip, social isolation, and loss of reputation, friends, family, and job.

Recent research has increasingly focused on the extralegal effects associated with the symbolic significance of sanctions, and several studies have shown that the shame and change in self-concept which crime and sanction entail are significant for whether individuals commit crime or not (see, for example, Williams, 1985; Williams and Hawkins, 1989; Grasmick and Bursik, 1990; Schumann and Kaulitzki, 1991; see also Christiansen, 1975; Klepper and Nagin, 1989). It is understandable why threats to the loss of reputation and status, source of income, and family and friends can have a greater deterrent effect than concrete penal sanctions. These extralegal effects may be considerably harsher, longer lasting, and more pervasive than the penal sanction.

It is important to keep in mind that extralegal effects can vary and depend on factors such as the position and social surroundings of the individual. Those who are already socially isolated, or whose primary associates are also in conflict with the law, may be immune to extralegal effects. Conversely, those who have something to lose will experience the threat of sanctions as greater than those who are without social capital. Only those who have status can worry about losing it. These hypothesis have been confirmed in studies of extralegal effects (Grasmick and Bursik, 1990; Schumann and Kaulitzki, 1991; see also Kingsnorth, Alvis, and Gavia, 1993). A study of domestic violence interventions illustrates this phenomenon, as it shows that the effects of interventions depend on the background of the offenders. Married, well educated, and active professional men are deterred from further violence by being arrested for wife battering. Unemployed, unmarried men without vocational education react to arrest with escalation of the violence toward their significant other (Sherman et al., 1992; but see also Berk et al., 1992). Similar results have been found in a study on the effects of incarceration (Dejong, 1997).

It is debatable whether the extralegal effects of sanctions are part of their general deterrent effect (see the views presented by Williams and Hawkins, 1986; and by Schumann and Kaulitzki, 1991). On the one hand, it is obvious that a relationship exists on the abstract level, as sanctions symbolize that normative boundaries have been crossed, activating common condemnation. On the other hand, it is probably difficult to show a clear and consistent relationship between formal legal penalties and common condemnation. The extralegal effects may be assumed to be largely independent of the penal sanctions an offense can result in. Cross-national comparisons also indicate that cultural traditions hold a high degree of significance for the extent and types of reactions the community experiences and expresses toward crime (Braithwaite, 1989).

In order to gain a deeper understanding of the ways in which deterrence functions, it is recommended that future research highlight both the extralegal as well as the legal elements of punishment, and pay special attention to the differential effects of deterrence (von Hirsch et al., 1999).

Summary

A significant amendment of the Danish Penal Code lowered sanctions in regard to property crimes during the study period. This coincidental occurrence created the context for a natural experiment, and thus enabled an examination of the specific deterrent effect of the severity of sanctions. This examination clearly reveals that the notable decrease in the severity of sanctions for property offenses had no significant influence on the rate of recidivism, the speed of recidivism, or the seriousness of the recidivistic crimes committed. Furthermore, the study found no significant decrease in incapacitation effects as the result of shorter and more lenient sanctions at the end of the 5-year follow-up period. The latter result is important, as studies on deterrence seldom address both the deterrent and incapacitative effects of changes in sanction severity, and are therefore generally unable to identify their relative influence.

The research conducted herein supports previous studies of the specific deterrent effect of sanction severity. In general, research fails to find a clear, negative correlation between the severity of sanctions and levels of offending. Most of the research in the area suggests that the risk of recidivism is unaffected by realistic changes in the severity of sanctions.

Research on the general deterrent effect of the risk of conviction indicates that increase in conviction risk may have some general deterrence value, but the results obtained have been somewhat dubious and need to be further examined.

Results from studies on general deterrence and sanction severity are similar to the studies on specific deterrence, as most of the research in this area fails to show that changes in sanction levels influence rates of offending.

Future research on deterrence should pay closer attention to the extralegal effects of sanctions, as these may be as, if not more, important to individual offending decisions than legal penalties. Some recent studies have focused on differential deterrent effects and found a correlation between responses to sanctions and ties to conventional society. Much more research is needed along these lines, both to understand how deterrence might be increased and to identify important counterproductive aspects of conviction and punishment.

Punishment, Treatment, and the Pendulum

“LIKE HEAVY WAVES, the various forms of crime control appear, disappear – and appear again. Or maybe a picture of a pendulum in motion would be better” (Christie, 1981, p. 70).

The pendulum moved in the 1970s away from the treatment ideology. This ideology had emphasized that treatment-oriented sanctions should be tailored to the individual; therefore a number of indeterminate sentences were implemented. Offenders were released when the treatment or resocialization was considered complete.

The movement away from the treatment ideology was initiated by criticism of the very long prison terms the system of indeterminate sentencing resulted in for even less serious offenses. The treatment concept was further criticized as a false ideology that embellished the picture of the conditions in prisons. Finally, criminological research was unable to confirm the assumption that crime problems could be solved through individually tailored sanctions or therapeutic measures.

The position to which the pendulum moved after the treatment ideology is often called neoclassicism. “Neo” because it was a renaissance of the classical penal ideology that had dominated before the treatment ideology. Neoclassicism, however, cannot be said to have left as deep an imprint on Danish crime policy as it has in many other countries.

The neoclassical movement was seeded by criticism of the treatment concept. Since the cornerstone of this criticism was the lack of proportionality between offenses and sanctions, this element became central to the neoclassical approach. Under neoclassicism, the sanction would no longer be tailored to the offender but rather to the offense. The harm done to others

should decide the severity of the sanction (see the discussions in Heckscher, Snare, Takala, and Vestergaard, 1980).

The pendulum is now in motion again. Neoclassicism is criticized for having resulted in an enormous growth in the inmate population (Christie, 1993). Furthermore, it is thought to have made the conditions under which prison sentences are served more difficult in that the possibilities for assisting and treating the incarcerated have been cut (Cullen and Gilbert, 1982). There is growing agreement that the criticism of the treatment concept was too generalized and too strong, and that newer research has shown positive results can be achieved through treatment of offenders.

Classicism – treatment ideology; neoclassicism – treatment renaissance?

The Renaissance of the Treatment Concept and Criminological Research

The treatment concept received its empirical death blow from a very short article published in 1974 (Martinson, 1974). The article carries the title “What works?,” and the answer given – especially by the mass media – was “Nothing works”. The article was extremely influential because it was well documented, being based on an extensive review of the criminological treatment literature. Publication of the review was delayed due to concern over the negative effects it could have on treatment policy. It was finally published in 1975 (Lipton, Martinson, and Wilks, 1975).

“Nothing works” became the simple message, which would long dominate perceptions about reducing the risk of recidivism through treatment of offenders. Not until the 1980s did the tune start to change.¹

A book was published in 1980 that forcefully argued that treatment did make a difference, and that “nothing works” was a mistaken conclusion. The title of the book reveals its mission: “Effective Correctional Treatment.” It describes twenty-four different experiments that have yielded positive results through the treatment of offenders (Ross and Gendreau, 1980).

Not until several reanalyses of the research had been performed, however, did optimism in the treatment ideology really resurface. In contrast to earlier reports, which merely consisted of reviews of the treatment literature, the new reports actually reanalyze much of the old data, as overall treatment effects are examined anew through meta-analysis. The problem

¹ Though relatively unnoticed, by 1979 Martinson had conducted a reevaluation of the treatment research and modified his earlier conclusion about its lack of effect, thus distancing himself from the “Nothing works” judgment (Martinson, 1979).

with many treatment experiments is that they include relatively few subjects, and thus lack the power necessary to show smaller treatment effects. Through meta-analyses, where all experimental groups are compared with all control groups, these difficulties are eliminated and we can achieve an overall picture of possible treatment effects.

The most extensive meta-analysis to date is based on more than 400 studies of the treatment of young offenders (Lipsey, 1992a; 1995; see also Lipsey, 1992b). The analysis shows that the recidivism rate of the treatment groups is generally 10% lower than that of the control groups. It also shows that treatment often provides an improvement, in the offenders' school and employment status.

Other meta-analyses have included between 8 to 111 studies (see the review in Lösel, 1995a, pp. 82 ff.). All these analyses show an overall positive effect of the treatment experiments which have been tested. These diverse meta-analyses show a 5 to 36% reduction in the recidivism rate for the treatment groups as opposed to the control groups. When the results of thirteen meta-analyses are combined, the overall treatment effect detected seems to be a reduction of around 10% (*ibid.*).

When treatment programs are subdivided by type, significant variations appear in their effects. Psychologically oriented forms of treatment, such as counseling, produce little or no effect and programs which seek to increase deterrence often result in negative effects. The greatest treatment effects result from programs aiming to improve the living standards of the offender, or attempting to develop behavioral and social skills. Programs that include several different treatment elements also tend to provide positive results (Lipsey, 1995, pp. 73 ff.).

Cognitive skill training programs, which aim at developing behavioral and social skills, are now being tested in different prisons in Denmark. These programs work to instill, for example, self-control, empathetic sensitivity, anger control, problem solving, and creative and self-critical thinking (Porpino, Fabiano, and Robinson, 1991).

An earlier examination of treatment research and meta-analyses reaches approximately the same conclusions in regard to the types of programs that produce positive, negative, or no results (Palmer, 1992). No program always gives positive results, but some do so more frequently than others.

Prior research provides some recommendations for assuring the highest degree of success with treatment programs (*ibid.*):

1. The treatment should be multimodal and include several different components: behavioral programs, vocational training, education, etc.

2. The treatment should be intensive.
3. Individually tailored treatment should be given according to the specific needs and wishes of individual recipients rather than tailored to all.

Resistance against a Treatment Renaissance

One of the first articles critical of neoclassicism focused on the inhumanity and lack of treatment of this “new” penal ideology (Cullen and Gilbert, 1982). In support of the criticism, and noting the lack of coherence between theory and policy, they cite Thorsten Sellin who once stated: “Beautiful theories have a way of turning into ugly practices” (ibid.).

Ironically, this statement was originally applied to the treatment ideology that the authors so eagerly hoped to revive. Treatment strategies have routinely strayed from the theoretical paths that their advocates envisioned, and results have thereby suffered. It is thus understandable that the attempt to revive the treatment concept has been met with great skepticism. The memory of the ugly reality of the beautiful treatment ideology is still young.

The harshest critics of the new emphasis on the treatment concept in the Danish penal system are persons who worked in the correctional system during the time of the old treatment ideology (Engbo, 1991). They criticize the emphasis on preventing recidivism as the prime aim of the correctional system, believing that the system should provide offenders with the help that, as citizens, they have a right to and need for, regardless of its effect on subsequent offending.

The Norwegian criminologist Nils Christie, who has been one of the strongest critics of neoclassicism, also condemns the revival of the treatment ideology. Christie warns against the risk of the pendulum moving back to a radical position, since the treatment ideology provides “an excellent base for control, particularly of minor deviance, but also of the extreme forms such as the habitual or the dangerous criminal” (Christie, 1981, p. 70).

Stanley Cohen expresses thoughts very similar to those of Nils Christie. He strongly criticizes advocates of the resurrection of treatment for rectifying the problematic conditions which have motivated a change in the system. “Each time we move – to community, justice, treatment, or whatever – we repress the reasons which inspired the last move” (Cohen, 1985, p. 249).

The question is whether the resistance against the treatment concept is justified. Will history repeat itself?

Hardly in the same way.

It is difficult to imagine that a treatment renaissance would lead to a reintroduction of a system of indeterminate sanctions such as that used

in Denmark from 1930 to 1973. On the other hand, it is not impossible that a treatment renaissance could lead to other undesirable consequences resembling those seen before.

Efforts to fight crime can sometimes foster uncritical positions as to the means. Fighting crime is extremely difficult, and frustration over failure can result in a temptation to use means that are fundamentally repressive, but that can be legitimized on the basis of presumed treatment effects. It can also lead to the use of means already shown to have negative effects. Boot camps, as discussed in Chapter 15, provide an example. "Scared Straight" programs, in which young offenders meet older, hardened criminals, are another example. The idea of reviving youth prisons – obviously in a new form – also reappears periodically in Denmark.

This eagerness to fight crime, combined with an unrealistic expectation of potential results, creates the risk of unwanted consequences from a renewed concentration on treatment. Overzealous reliance on the ability of new treatments to solve problems creates the risk of bestowing treatment as a panacea, which all offenders not only should, but must undergo.

Unbridled *optimism*, where *realism* is lacking, can lead to measures that risk being counterproductive and repressive.

Pendulum or Balance

The aforementioned critics of the perpetual motions of the pendulum all have the same solution to the problem: Refrain from a utilitarian preoccupation with the benefits of sanctions. Nils Christie opposes penal theories in which punishment serves utilitarian goals. He prefers a form of penal theory in which sanctions are given solely as an expression of mourning. In this sense, the sanction does not serve an ulterior purpose, and its use no longer requires an assumption of any beneficial effect (Christie, 1981, pp. 98 ff.).

Stanley Cohen talks about moral pragmatism as opposed to utilitarianism. "The 'moral' element affirms doing good and doing justice as values in themselves. . . . The 'pragmatic' element stands against all forms of premature theoretical and political closure, all quests for cognitive certainty which rule out certain solutions as being conceptually impure or politically inadmissible" (Cohen, 1985, pp. 252 ff.).

According to both Nils Christie and Stanley Cohen, morality should be the guiding principle for the use of the penal law. Cohen's pragmatism would provide the basis for comparing the preference for one sanction over another. In a similar vein, Christie suggests that "Punishment can then be seen to reflect our understanding and our values, and is therefore regulated

by standards people apply every day for what it is possible and what is not possible to do to others" (Christie, 1993, p. 185).

There are many parallels between these thoughts and those put forth by the Swedish criminal law professor Nils Jareborg regarding "defensive" and "offensive" criminal law (Jareborg, 1995). The offensive use of the criminal law is characterized by an emphasis on fighting crime, whereas defensive criminal law is primarily concerned with expressing and strengthening social morals.² Utilitarian philosophy is thus only a symbolic part of the defensive criminal law.

Research that concerns the beneficial criminal law – or rather, the criminal law that intends to be beneficial – can be said to support the suppression of utilitarian goals. The previous two chapters concern research on the effects of type and length of sanction. It is possible to take the position that we still lack a sufficient (and sound) research foundation on which to base any conclusions. But one can also take the position that the available research yields such weak support for the hypothesis that it is possible to regulate human behavior through realistic adjustments to sanction type or length that goal-oriented thinking of this kind ought to be excluded as a basis for penal policy.

What then should be the foundation?

Given a strong belief in the ability of human beings always to make good moral choices, it would perhaps be possible to do away with the utilitarian orientation of the penal law. Absent such optimism, however, it is probably necessary to maintain some penal emphasis on utilitarian principles – at least on those whose benefits have been empirically demonstrated. Research regarding the realistic potential of deterrence, incapacitation, and/or rehabilitation to reduce additional offending can be useful in setting the limits of penal policy. Unproductive or counterproductive sanctions and measures might thus be eliminated, leaving only those that truly work to reduce crime. It is in this light that the treatment philosophy should be considered.

Summary

"Let us in prisons, just as in society in general, educate to ensure the opportunities of the students to acquire, improve, or supplement their knowledge and skills. Let us establish substance abuse treatment to help people out of abuse. Let us offer social counseling to strengthen the social conditions of

² Nils Jareborg emphasizes that an important element of defensive criminal law is that it also aims at protecting the individual against abuses of power. He lays out several principles for criminalization according to a policy based on defensive criminal law (*ibid.*, pp. 24 ff.).

the individual" (Engbo, 1991, p. 234 [in Danish]). Engbo's answer to the emphasis on recidivism is, as mentioned, that prisons should rather concentrate on offering inmates the services which citizens in the rest of society receive.

There is little doubt that renewed attention to the treatment concept has been sparked in part by its potential for generating additional resources for the penal system. The exit of the treatment ideology had spelled the end not only of the strongly criticized system of indeterminate sanctions, but also of a great part of the treatment staff. Possibilities for education and personal advancement during confinement have long been very poor, as have the possibilities for treating substance abusers. "Nothing works" legitimized politically motivated cutdowns, since it could be argued that it made no difference what happened during confinement.

It is evident that the service tasks pointed out by Engbo should be justifiable solely on the basis of the legal rights of inmates, since "inmates have access to exercise their ordinary rights as citizens to the extent the confinement allows them" (ibid., p. 231 [in Danish]). It is also evident that the hope of reducing recidivism influences the likelihood of funding for programs offering treatment and training to offenders.

In light of this, new treatment research is not without importance since it can contribute to the creation of *possibilities* that are today lacking. New forms of treatment may contribute to improvements in the overall life circumstances of the punished. Reductions in recidivism are not just a cold measure of effect on offending, but usually also reflect improvements in the social conditions of offenders.

Looked upon objectively, current research reflects *treatment realism* rather than the kind of treatment optimism that formerly led to unbridled application and undesirable consequences. Realism requires the acknowledgment that treatment may result in only 10%, or perhaps even less, reduction in the risk of recidivism. Nonetheless, it is stressed that treatment does make a difference.

The current study has shown that extensive criminal careers are associated with especially difficult social conditions such as alienation from the job market. This study has also shown that the 1980s were marked by an increase in the proportion of offenders who are not on the job market.

Analyses have further indicated that employment status deteriorates during the commencement and continuation of a criminal career. The contrary is true for desistance. The relationships cited are not big, but still clear (see also Kyvsgaard, 1989b).³

³ Changes in employment status are analyzed via transition matrices which show small but still significant changes as mentioned above.

Employment status is only one of many important life circumstances, but negative changes herein often indicate negative changes in other areas as well.

There seems to be an obligation to attempt to improve these conditions through a strengthening of the opportunities and life circumstances of the offender. If so, there would also seem to be an obligation to consider the forms of treatment that have proven successful in other countries.

Treatment realism should be based on insight and knowledge obtained through previous experience.

- The most important lesson is that *treatment should be separated from sanction*. Sanction is not treatment, but suffering. Treatment cannot legitimize the sanction or make it beneficial.
- Second, treatment is, or should be seen as, an *opportunity*. Motivation to change is an important prerequisite for treatment success. When the offender cannot be motivated to try to benefit from a treatment program, the treatment is likely in vain.
- Third, treatment should primarily be administered *outside the prison wall*. It is first and foremost here that positive results with different forms of treatment have been shown (Lösel, 1995b).

The effectiveness of treatment should not be the sole justification for the provision of *basic* services to the punished. Nonetheless, a failure to examine the possibilities associated with *new* forms of treatment or new initiatives seems imprudent. Careful evaluations are a means of keeping treatment optimism in check. But they are also a means for verifying whether those treatments that we believe to be beneficial do, in fact, make a difference. Skepticism concerning research as a guarantor of progress is neither unhealthy nor misplaced. But reliance on common sense alone can also fail.

Discussion of Results

The Contributions and Challenges of Criminal Career Research

CRIMINAL CAREER RESEARCH has been criticized for a lack of theoretical foundation (Gottfredson and Hirschi, 1988; for a rebuttal, see Blumstein, Cohen, and Farrington, 1988b). This critique is justified to the extent that the fundamental focus of the research – prevalence, frequency, onset, duration, and desistance – is epidemiological and descriptive, rather than theory-driven. The primary aim is the mapping of variations and patterns in individual career trajectories. Such studies represent a method for disaggregating the criminal career into distinct and measurable components.

Studies of specialization and escalation may also be considered descriptive, but can at the same time be said to concern hypothesis testing. The hypotheses tested, however, tend to originate from common assumptions regarding the development of criminal careers rather than specific criminological theories.

Despite the above, the inductive nature of criminal career research does not exclude the results from being related to criminological theories. Furthermore, the results of criminal career research can be used to support or challenge criminological theories, depending on whether the patterns that emerge are embraced or explicable by common theoretical perspectives. The results may point to the shortcomings of some theories, or raise questions regarding the ability of general theories to explain fully the variation observed in individual offending patterns.

This final chapter reviews the most important findings of the current study, summarizes the material on deterrence and incapacitation, and comments on the implications of this work for criminological theories and criminal justice policy.

The Criminal Career Concept

As mentioned in Chapter 1, the career concept within criminology is primarily used to describe a *trajectory*. This implies the analysis of a sequence of events, characterized by a given duration, number, or pattern, and measured by their frequency, intensity, or type.

"Career criminals" are identified only rarely in criminal career research. For instance, this study has shown that the duration of most careers is 0, since the majority of offenders are registered for only one offense. Even among the recidivists, individual offending rates (λ) are extremely low. In 95% of the cases, λ does not exceed 1. The criminal career thus mainly appears as a single or relatively meager number of temporally sporadic events. Hence, the great majority of those who come into contact with the legal system commit crime with neither the longevity nor the intensity to justify application of the lay notion of a "criminal career." For the vast majority, criminal involvement is momentary or at best sporadic. Describing trajectories in these instances seems futile.

To the extent that trajectories do exist, they tend to be characterized by decline, rather than the arch-shaped pattern suggested by that term. The study has shown that far more desist from criminal careers than continue them, and that among the latter, de-escalation in the seriousness of crime is more common than increasing seriousness.

The "career criminal," one for whom crime is a long-term pursuit, is the exception. Only one out of every fifty offenders has a long-term criminal trajectory suitable for meaningful analysis.

Patterns of offending within these criminal careers are often characterized by an inverted U-curve. The frequency and seriousness of illegal activities escalate during the early stages of a career, but tend to de-escalate as the career progresses. De-escalation in frequency or seriousness may signal commencing or impending desistance. Whereas the first phase of the career can be described as a gearing-up phase, it is generally followed by a relatively long period of scaling down.

The period of de-escalation is typically characterized by a higher degree of stability in the types of offenses committed. It seems relatively rare for seasoned criminals to experiment with new forms of crime.

Blumstein et al. (1988a, p. 2) have defined the criminal career as a "longitudinal sequence of offenses committed by an offender who has a detectable rate of offending during some period." Using this widely accepted definition, most study subjects fail to fall within its confines. One might argue that the definition of a "career" also embraces single transgressions. The

question is whether it is meaningful to use the concept in these instances and thus let it be so broad.

Raising this issue does not imply a desire to revisit the terminological discussions on “career criminals” versus “criminal careers” (see Chapter 5) but is merely meant to question the wisdom of using as loaded a term as “career” within science. Regardless of how eagerly researchers try to explain the purely technical meaning of the concept, its common connotation gives rise to certain types of associations and interpretations that may markedly differ from those implied by the researcher. Furthermore, from a criminal policy standpoint, the criminal career label is unfortunate since it may contribute to common and inaccurate impressions regarding the magnitude of the criminal activities of individual offenders.

The discussion referred to in Chapter 5 between Gottfredson and Hirschi (1987; 1988) on the one side and Blumstein et al. (1988a; 1988b) on the other, shows that the concept gives rise to confusion and debate even within scientific circles. *Research in individual offending patterns* could be an alternative, since it is both more specific and less loaded. Furthermore, it emphasizes the essential focus of the research on *patterns* in offending. *Patterns* is broad enough to relate to patterns in frequency, order of events, or in types of events. It might also relate to patterns, that is, connections, between offending and individual characteristics like age and gender.

Relationships between Prevalence, Frequency, Duration, and Desistance

The most important finding of the study is the relationship between prevalence, frequency, duration, and desistance. The fact that all these components of the criminal career correlate is not surprising since they more or less concern the same phenomenon. What is interesting is that the age, gender, and social status patterns found for prevalence recur for frequency and duration and, in the case of age and gender, also for desistance. The fact that age was found to be related to both prevalence and frequency is particularly interesting given previous debates concerning the explanation of the aggregate age-crime curve (e.g., Gottfredson and Hirschi, 1987; Blumstein et al., 1988a). The findings of the current study deserve special consideration given the large sample on which they are based. Patterns are thus clearly evident and the results therefore hard to deny.

From a broader perspective, the patterns found point to a regularity seldom found within the social sciences. What makes the regularity interesting is that it concerns a connection between behavior at the group and

individual levels. The study tells us that if a certain group of individuals has a high rate of prevalence, then their individual crime frequencies are likely to be high as well, as are their individual probabilities for criminal persistence. Information concerning changes in group patterns thus provides relevant information on individual level changes. For instance, if the participation rate among women were to increase we could then expect the individual offending frequency and length of the criminal career to increase for this group as well.

The study also points to another regularity, one that may well modify the aforementioned relationships. Age, gender, and social status have greater influence on the prevalence of offending than on the other elements of the criminal career. The study shows that the significance of age, gender, and social status decrease as the frequency of crime increases. It has thus been found that the length of the residual criminal career moves toward convergence regardless of age, gender, or employment position as an individual's number of prior records increases.

The demographic characteristics that clearly influence prevalence thus seem to have less effect on criminal persistence among multiple-registration offenders. This does not suggest that onset and continuation in crime are caused by different circumstances or individual-level characteristics. The circumstances explaining multiple offending will in many cases also explain onset. For instance, substance abuse and having a childhood history of neglect are typically related to multiple offending, but they may also affect onset. Statistically, however, the demographic variables included in this study are probably more important for explaining prevalence than variables like substance abuse, but that does not rule out substance abuse as a variable influencing prevalence. It indicates that some participate in crime just once or twice because of, for instance, youth or unemployment, whereas others engage in crime more frequently because they abuse drugs in addition to being young or unemployed. The circumstances explaining onset into a short criminal career as opposed to a longer one are also important in explaining why multiple offenders, as shown for escalation, start by committing more serious offenses than those whose careers taper off more rapidly.

Instead of interpreting onset and continuation as caused by different circumstances, the study thus indicates that onset into a long and highly active criminal career is caused by factors above and beyond those related to involvement in shorter, less active careers.

Taken together, these two regularities seem to suggest that when factors affecting the prevalence rate are present, these same factors will generally

influence the length of the criminal career as well. This pattern, which has often been observed, that a drop in prevalence coincides with a drop in the recidivism rate, is not so obvious as it might seem. For instance, one might logically expect that more women could engage in crime without any increase in the recidivism rate among women, or vice versa. Nevertheless, this seems not to be the case.

This relationship between prevalence and individual offending patterns represents a challenge to criminological theory and research. It suggests that circumstances beyond the concrete, well acknowledged causes of crime affect offending, that is, circumstances of a more subjective nature such as general attitudes toward committing crime. Some might argue that this goes without saying, but such factors are seldom embraced by criminological theories designed to explain increases or decreases in individual offending rates.

Individual Offending Frequency

The study has clearly demonstrated that crime frequency varies by age, tops during adolescence, and slowly decreases thereafter. This is the overall picture. On the other hand, the study also shows that this is a pattern very hard to demonstrate empirically for single offenders. Very few offenders have a criminal career exceeding one or a few offenses per year, so even a sample as large as that used here will include only a handful of highly active multiple offenders. The pattern shown in Chapter 8 (Figure 8.7) is based on offenders who have committed more than twenty offenses during a 13-year period. It would be interesting to examine this pattern more closely in a study based only on high frequency offenders over a longer period of their criminal careers. This would be of particular interest as the current study indicates that adult offenders tend to continue offending for a rather long period but at a lower frequency. This finding may represent bona fide age-related behavioral changes, but could alternatively reflect a process of selective attrition, whereby the worst adult offenders tend to be incarcerated as time goes by, thus leaving only their lower-frequency counterparts out on the street and artificially creating the appearance of decreasing frequency with advancing age.

Increasing our knowledge on repeat offenders is also important given the fact that this group is responsible for a large proportion of all offenses. An essential finding in relation to frequency is that 75% of all offenses are committed by recidivists, and that crimes committed by recidivists are generally more serious than crimes committed by single-registration offenders. This is

by no means a novel finding; it has been reported many times elsewhere. It deserves note, however, in relation to criminal policy, since it demonstrates that crime prevention is very much a matter of the prevention of recidivism.

Quite naturally, the high-frequency offenders attract a disproportionate amount of attention from criminologists and crime policy makers. Yet, given their aggregate import, the enormous number of single-registration offenders deserve further investigation. The extraordinarily large proportion of single-registration offenders identified in this study may in part reflect the types of offenses examined, but criminal career studies of any and all designs inevitably find large numbers of one-time offenders.

If the "dark figure" of crime could somehow be eliminated, and all offenders were caught and registered for each and every offense, the extensive proportion of single-registration offending would be less interesting; it would merely show that a great number of persons engage in crime once or twice in their lives whereas a minor group does it many times. However, the fact that most property crime goes unreported, and that many of those reported go uncleared, suggests quite clearly that many single-registration offenders have committed one or more crimes prior to being caught. This suggests that there may be more complicated explanations for distinguishing one-time and multiple offenders than disposition or pure chance. Are single-registration offenders the "smart ones" who are able to avoid police detection? Or has detection influenced their likelihood of discontinuation? The latter seems more plausible than the former, since the single-registration offender is typically charged with only relatively trivial offenses. In terms of demographics, he or she looks much more like the general population which includes more older, female, and employed individuals than are found among samples of multiple-registration offenders. These facts suggest that the single-registration offender is unlikely to have planned and committed serious offenses prior or subsequent to his or her single altercation with the criminal justice system.

As most of the single-registration offenders are charged with shoplifting, traffic code offenses, or other forms of less serious crime, the severity of sanctions posed on the single-registration offenders is very low, a warning or fine at the most. The high number of single-registration offenders is thus unlikely to be explained by the deterrent effect of the penalty, which suggests the importance of the deterrent effect of detection (see Deng, 1997). On the other hand, the high crime frequency among other offenders clearly indicates that the deterrent effect of detection varies immensely. In an indirect way, therefore, criminal career studies also point to subject differences in the reaction to detection.

Onset

As mentioned in Chapter 9, the findings on the age of onset and its relationship to frequency and, even more, to criminal persistence, differ from those reported in much of the previous research and disagree with our common understanding of the criminal career. Ignoring age for a moment, the study reveals the well established and expected picture: Those who start early commit many more crimes than those characterized by late onset. But the study demonstrates that this is largely explained by age-related differences in frequency. The fact that offenders with early onset have a more comprehensive criminal career than those starting later is attributable to the higher crime frequency among younger subjects. Crime frequency at any given age is more strongly related to the current age of the offender than to age at onset. The study also demonstrates that although desistance is strongly related to the current age of the offender, it is unrelated to age at onset. The probability of desistance at age 24 is the same whether an offender began his or her criminal career at age 16 or at age 23.

This does not mean that age of onset is of no importance. Clearly, the earlier a career begins the longer it will tend to last. However, the current study does suggest that age of onset does not have the predictive power often ascribed to it, that is, that early onset predicts postponed desistance.

This is an important finding for those who work with offenders, as common assumptions concerning the implications of age at onset for career longevity may lead to false expectations. It is also clearly relevant to criminological theory, as it contradicts hypotheses laid out in Gottfredson and Hirschi's *General Theory of Crime* (1990). The findings of the current study do not support their assumption that a lack of self-control (or any other factor) explains early onset, high frequency offending, and long-term persistence all in one.

It should be noted, however, that the controversial findings concerning onset herein could be an artifact of the relatively high Danish minimum age of criminal responsibility (15 years). This limits the possibilities for testing the relationship between a very early onset and continuation in crime. Furthermore, the results are limited by the study period, since the relationship between onset and continuation can only be analyzed in the "onset sample." Recall that the onset sample includes subjects ages 14 and 15 at the start of the 13-year study period, which means that career continuation can only be measured through age 26 or 27.

Despite these limitations, the significance of which remains unknown, the study clearly points to age as an extremely important factor in explaining

individual offending patterns. Nonetheless, as Bloch and Niederhoffer advised in 1958, age may have meaning above and beyond that suggested by the relatively obvious age-graded social circumstances associated with different points in the life course (Bloch and Niederhoffer, 1958). Criminology might well be advanced by reviving their dusty theory and updating it via attention to modern-day youth.

Criminal Persistence and Desistance

Persistence and desistance are complementary elements in the criminal career. This is confirmed by the study, as the patterns found for persistence are basically inverted for desistance. In the age groups where persistence – here measured as the length of the residual criminal career – is high, desistance is low. Similarly complementary patterns in persistence and desistance are found in relation to gender and to social status. Not surprisingly, then, crime frequency relates to desistance in the opposite way that it relates to persistence. Given this, criminal career analyses allow one to choose whether to look at persistence or desistance, since it is unnecessary to study both.

In reference to persistence, an important finding of the current study concerns the relatively insignificant differences revealed in the length of the residual criminal career between different age groups.

The age-persistence curve is considerably flatter than the age-crime curve, and it peaks at a higher age. Given that a person commits crime at a given age, the length of the residual career is only somewhat dependent on the age of the offender. Only among the oldest offenders is there a clear tendency toward an age-related decrease in the length of the residual criminal career.

This study does demonstrate, however, that age affects the frequency of crime during the residual criminal career much more than it does the length of that career. This suggests that even though middle-aged offenders will continue to commit crimes for almost or just as long a period as younger offenders, they will tend to offend at a lower frequency. This indicates that persistence in crime should – to give a more correct picture – be measured in terms of both duration and frequency.

Another interesting result already touched on above is that age is even less related to the length of the residual career when we focus on the more active offender. This suggests both an additional regularity, that the more active the offender, the longer the residual criminal career, and that the more active the offender, the less likely increasing age will affect the residual length of the career.

Desistance remains one of the biggest challenges to criminology. Empirical research and criminological theory have, quite naturally, tended to focus more on the etiology of crime and its prevention than on desistance in early adulthood. But the investigation of desistance has picked up steam during the last decade. Much of this new empirical research has derived from longitudinal perspectives in criminal career research, and from theoretical debates regarding the stability of criminal propensity (Gottfredson and Hirschi, 1990) and its amenability to change (Sampson and Laub, 1993). (For recent research and discussions, see Ouimet and Le Blanc, 1996; Paternoster et al., 1997; Laub, Nagin, and Sampson, 1998; Warr, 1998.)

In addition to the longitudinal survey research cited above, the empirical analysis of desistance has also utilized more qualitative, in-depth interviews with offenders which offer deeper insight into the mechanisms that drive the processes of behavioral change and desistance (Shover, 1985; Cusson and Pinsonneault, 1986; Shover and Thompson, 1992; Sommers, Baskin, and Fagan, 1994; Foster, 1990; Rex, 1999). A meaningful understanding of these processes benefits from reliance on a life-course perspective, and the combined insights derived from both statistical analyses based on longitudinal data and structural approaches as well as insights provided by detailed interviews with offenders and ex-offenders (see Farral and Bowling, 1999).

From the standpoint of both theory and crime prevention, it would seem important that criminologists continue to focus on the process of desistance. It might also be essential to pay closer attention to the meaning of age when studying desistance, that is, to look at age-graded changes that might affect individual behavior above and beyond those implied by the socioeconomic implications of aging. For instance, criminology has paid little attention to the subjective aspects of maturation in terms of personal philosophy or one's perception of one's place in the world and the potential connection that such changes might have to changes in offending.

Specialization

The methods used to study specialization have enormous influence on the results one generates. This is clearly demonstrated in the current study since it is shown that the number of crime categories used affects the outcomes obtained. Although methodological issues such as these are of obvious importance, questions concerning crime scale categorizations, and the ideal number of crime categories to include in an analysis, are rarely if ever addressed in the research on specialization.

The current study also shows that the length of time separating offenses is clearly important to the results: The shorter the time interval between offenses the higher the degree of specialization. This is an important result as it exposes a pattern not touched on in former studies. It indicates that specialization is most common within the context of high-frequency criminal careers, whereas versatility tends to characterize the more numerically common, low intensity careers. It would be interesting to study this pattern further with special reference to the possible impact of detection and punishment. It is quite possible that the tendency toward specialization among high-frequency offenders is interrupted by detection, since detection may signalize failure to the offender and thereby prompt reconsideration of targets and techniques. Better knowledge concerning the extent of specialization among repeat offenders and the means by which such patterns might be broken would seem important aims for the field of crime prevention.

The current study reveals a much higher degree of specialization than that found in other studies. This is particularly interesting since the study includes a broader spectrum of offenses than most studies (as discussed in Chapter 6), a fact that should decrease the probability of identifying specialization, all else being equal. The fact that the current study finds greater specialization than that detected in British and U.S. research raises questions regarding the extent to which these differences reflect national differences in offending opportunities (due to naturally arising or crime prevention "steering") or differences in crime cultures (criminal traditions, common patterns of offending, access to handlers of stolen goods, and so forth). Further understanding of these issues would be of great importance to crime prevention agencies.

The study also reveals a greater tendency for specialization among women than men, and among older offenders as compared to younger. These findings contradict those previously mentioned in regard to specialization and frequency, that is, that high-frequency offenders exhibit a greater tendency toward specialization, since females and older offenders are generally low-frequency offenders. Older offenders may tend to specialize more than younger ones due to changes in specialization tendencies during a long criminal career. The results concerning versatility show that the number of different types of crimes committed is not directly proportional to crime frequency. Seen in a relative light, versatility is highest among those who commit the fewest offenses. Versatility, measured as the ratio between the number of different offense types and the total number of offenses committed, decreases as the total number of crimes goes up, and even stops for offenders who have committed many crimes. Offenders in the latter part

of their criminal career, that is, the older offenders, can thus be seen as offenders who have both slowed down their criminal activities and narrowed their scope of crime types. The greater tendency for female offenders to specialize may reflect the somewhat limited scope of offenses attractive to women as compared to those attractive to men.

It is interesting to note that the versatility in types of offenses committed falls far short of the number of possible offense types. Even if a highly active offender has committed many types of offenses, his or her versatility is generally limited to a rather small proportion of the crime types possible. This suggests another way of looking at specialization, as limiting the individual offending pattern to a certain combination of different types of offenses. This perspective may prove fruitful, especially since different types of crime often appear together, for instance joy riding, drunken driving, and burglary. Repetitions such as these are not revealed by the more rigid measures of specialization even though these patterns clearly reflect very specialized targets and techniques.

In order to increase comparability to previous research, the measurements of specialization used in this study were deliberately based on a rather limited number of categories. The downside of this is that few of these categories are "clean," since they include crimes grouped in broader categories, for instance, violent and sexual offenses. From a crime prevention and policy standpoint, it would be better to study crime-specific categories such as rape or assault. Knowledge concerning the tendency for rapists and/or violent offenders to commit the same types of crime is based more on myth than empirical evidence. Studies designed to examine specialization by crime type should include a measure of desistance, since the interpretation of specialization may be upwardly biased when the length of the criminal career is unaccounted for in the model. From an ethical point of view, it is important not to overstate the magnitude of specialization, since this can significantly misguide criminal policy.

Escalation

The findings on escalation in the seriousness of offenses are perhaps the most unique and remarkable results reported in this study, and certainly among the most provocative. The study reveals that the seriousness of the first offense registered is generally predictive of both persistence in, and the cumulative number of, offenses committed during a criminal career. The crimes committed by one-time offenders are generally less serious than the first offenses committed by two-time offenders. The first offense committed

by the two-time offenders is generally less serious than the first offense committed by three-time offenders. And so on. The greater the overall extent of the criminal career, as measured by the total number of offenses registered during the 13-year study period, the more serious the first offense of the career tends to be.

As mentioned in Chapter 9, this result is not new. Previous studies have noted that the age of onset predicts the seriousness and extent of a criminal career. What makes the findings from the current study particularly fascinating is the very clear and distinctive nature of the pattern found. Whereas prior research has used the seriousness of the first offense to distinguish successfully unusually long careers from shorter ones, the current study finds that first offense seriousness is capable of predicting even minor differences in subsequent career length – even differences in careers that vary by a single criminal offense. Although one would not expect a significant difference in the seriousness of a first offense for subjects who commit two offenses as compared to those who commit three, this is precisely what the Danish study reveals. This provocative finding certainly calls for further research using this and other data sets. If replicated, it might represent an essential contribution to criminology as well as to crime prevention agencies, since the seriousness of the first offense may provide a simple means of revealing which offenders to work with by pointing at strategic crimes, that is, first offense types that indicate a higher probability of a long criminal career.

From a theoretical standpoint, the findings cited above certainly seem to support Gottfredson and Hirschi's (1990) assertions concerning the correlation between various elements of the criminal career and their hypothesis that these elements may derive from a single underlying factor, level of self-control. These hypotheses and results suggest a rather deterministic system, in that the seriousness of the first offense predicts the number of offenses the individual is likely to commit in the course of his or her career. It also reflects the seriousness of those offenses, as people who begin with a serious offense will generally commit more serious offenses throughout their career than those whose first offense was less serious.

The study has revealed additional interesting patterns regarding escalation in the seriousness of offending. It shows that shorter criminal careers are more often characterized by de-escalation, whereas the seriousness of longer or more active careers tends to follow an inverted U-curve. Parallel to this is the finding that the youngest and the oldest offenders are committing less serious offenses than those in the middle age groups. In other words, the relationship between age and crime seriousness is also characterized by an inverted U-curve.

Together with the findings on age-related frequencies, the findings concerning escalation should be useful for those interested in the potential effects of various incapacitation strategies. For instance, the data reveal that incapacitation of very young and very old offenders, or of offenders who began their career with a relatively minor offense, will result in rather limited payoffs in terms of both the number and seriousness of offenses prevented. Furthermore, the data provide no empirical support for the idea of using life sentences solely for the purpose of incapacitation.

Taken as a whole, the findings on specialization and the relationship between age and escalation suggest that the adolescent criminal career is best characterized by exploration, spontaneity, and drift, since the crimes youths engage in represent a rather broad spectrum of both minor and major offenses. This can be contrasted with the behaviors of middle-aged and older offenders whose careers are much more focused in terms of both crime type and offense seriousness. These impressions correspond rather well with broader patterns of human development, and thus underscore the idea that criminal careers are but a subset of human activity and everyday life.

Gender Differences

Looking at the findings related to gender the study has first and foremost demonstrated that the importance of age differs by sex. Whereas age is extremely important to the explanation of male offending, its association to female offending is considerably weaker. This holds true in relation to prevalence, onset, and frequency, but is most noticeable for prevalence and onset. The familiar age-crime curve is basically a function of age-related changes in the prevalence and frequency of male offending. Female offending patterns are considerably flatter and thus tend to diminish the shape of the curve. This has been observed in previous research (for example, Farrington, 1986), but it deserves reemphasis as it is very often overlooked or ignored within discussions of the age-crime relation, and should be addressed more fully in future theoretical discussions.

Female offending patterns also differ from those of males in terms of specialization. Women tend to engage in a narrower breadth of criminal activities than men. When combined with information on the types of crimes preferred by women, explanations of female offending patterns and gender differences in patterns and magnitude begin to emerge. The study suggests that female offending tends more often to involve crimes committed alone and ones which yield direct gains, such as shoplifting and check fraud. This suggests that females have less access to criminal subcultures and that

this may be an important element in explaining their offending patterns. The study also demonstrates that the difference between male and female prevalence is biggest in youth, the time of life in which peer influence is most prominent. This signals the importance of a differential association perspective in explaining female criminality. It would therefore seem fruitful to pursue these ideas in future research by looking at gender differences in *modus operandi*. However, criminal career research based on official records is poorly suited to investigate these issues. It demands access to more detailed data on, *inter alia*, the reasons for choosing a certain type of crime.

If the assumptions stated above are right, data concerning gender-specific decision-making processes and social networks could prove useful in explaining gender differences in offending from a differential association/rational choice perspective.

Social Status

The relationship between offending and social position, here measured by employment status, has yielded inconsistent results in regard to prevalence, criminal onset, frequency, and the like. The overall finding is that the social position of the offender influences the likelihood of participation, continuity, duration, and frequency. Age modifies the effects of employment status, however. Unemployment has greater significance for adult or middle-aged offenders than for young ones. The significance of being employed increases steadily with age (see especially Figure 7.7). It has also been demonstrated that frequency follows a different age-curve for offenders outside the labor market than for the employed (Figure 8.9), since offending frequency among the unemployed is highest for offenders in their 20s. The crime frequency peaks earlier for those attached to the labor market.

These findings are likely explained by the fact that the meaning of unemployment and employment probably differs with age. Among adolescents, unemployment is generally viewed as a temporary state of affairs, and not as a situation leading to exclusion. Some youngsters may even actively pursue temporary unemployment in order to make time for other activities. Nor is being out of work a deviant position among young people, as many in that age group are students. By early adulthood, however, unemployment becomes increasingly stigmatic and increasingly suggestive of social failure. At some point, it undoubtedly increases the odds of permanent exclusion from the labor market. As subjects reach retirement age, however, the social implications of unemployment change again, and the situation becomes less stigmatizing. Seen in this perspective, it is easy to understand why the

pattern of offending among the unemployed is affected by age-related differences in the stigma attached to that status. As pointed out in relation to female criminality, this finding demonstrates that the relationship between offending frequency and age does not hold for all groups in society.

From a theoretical standpoint, these results suggest that general explanations or general theories of crime are unsound, and that life-course perspectives that account for age-related differences in the social meaning of events or statuses are more helpful. The meaning of a good job, marital status, or peer involvement may change over the life course, and thereby influence the probability of criminal involvement in different ways at different ages.

It should also be noted that the increase in penal law offenses during the period of study was due to an increase in prevalence of offending among those outside of the labor market. Although clearly of local interest, this result has broader implications. Demonstrated changes in prevalence over a period of time show that criminal career techniques also provide a sophisticated method of obtaining better measures of current crime trends and underlying patterns. And if specific knowledge on crime trends is the focus of a study, it suggests that one has to be careful to update criminal career data, as results based on old data may quickly lose relevance. The currency of one's data is less important in studies that emphasize underlying social relationships as opposed to current crime trends. This said, however, even underlying social relationships are subject to change. For example, the relationship between marriage and criminality may change if the social meaning of marriage, and of divorce, changes over time. For all these reasons, it is best to use data that are as current as possible.

Varieties of Criminal Careers

Like other studies of the criminal career, the current study emphasizes the diversity of individual offending patterns. Criminal careers vary in terms of frequency, seriousness, and length. They range from the single-registration offender to the multiple offender with a lambda above one hundred. They encompass persons whose criminal careers have spread from childhood to old age, and those whose histories in crimes include but a single adult offense. They range from middle-aged, well-established women who commit a single act of shoplifting to the consistently unemployed and homeless drug addicts with numerous burglaries and robberies on their conscience.

Some of these divergent careers have been highlighted here, by consistently analyzing the elements of the criminal career from the perspective of

age, gender, and social status. Since the current study began in 1991, statistical methods introduced later in the decade were unavailable for use herein. One such method is the mixed Poisson regression model proposed by Nagin and Land (1993; see also Land and Nagin, 1996; D'Unger et al., 1998). It is unfortunate that methods such as these were not available from the start of this study, since they provide a promising way of identifying latent classes of criminal careers. In particular, the semiparametric mixed Poisson method represents a powerful yet simple way of making comparative research such as that discussed in the next section. It would, for instance, be quite interesting to see whether the number and forms of latent trajectories found in the Danish sample coincide with those identified in research from other nations. D'Unger et al. (1998) point out that some sample-specific variation should be expected, but comparative research utilizing the semiparametric approach might very well identify some important global patterns.

On the other hand, there is something to be said for methodological simplicity, especially when the results obtained converge with those revealed by more complicated approaches. The relatively simple statistical methods used in the current study do, in fact, identify two of the important offending patterns identified by the semiparametric approach, namely, Moffitt's "adolescent-limited" and "life-course persistent" trajectories. These are clearly visible in the current study's analyses of prevalence and frequency in regard to desistance.

Needless to say, the existence of divergent career patterns challenges criminological theories in general and general theories in particular.

Methodological Issues

The increasing global perspective of criminology makes it increasingly important to examine our findings from a broader perspective and to discuss the extent to which sample-specific results provide knowledge on global patterns in human behavior. International cooperation and the emergent "global village" suggest that divergent societies, at least within the western world, will become more similar in terms of developmental trends, social and economic structure, and cultural and social values. An increasing global unification should also increase homogeneity in crime trends and thereby make comparative research even more important and interesting. Assuming that societies are alike, comparative perspectives are fruitful ways of questioning results and interpretations which may seem plausible and reasonable from a local perspective, but may be falsified by international comparisons. Determining the extent to which differences in comparative data represent

bona fide differences in behavior as opposed to methodological artifacts would both contribute to knowledge and improve research.

This study has encountered numerous difficulties in comparing its results internationally. These difficulties are not caused by conceptual incongruities in the criminal career methodology, since the elements of such careers are well defined and have been used consistently in many studies. Rather, the problems encountered arise from cross-national differences in official crime records. Among the most important of the differences is the specific way in which offenses are defined and recorded in the different countries. Although the statistical methods utilized for data analyses can be adequately standardized, the samples that comprise the data and the documentation of that data often leave much to be desired. This is due to inevitable differences in police policy and recording practices, as well as to cultural differences in research traditions, including a failure to document fully various idiosyncrasies of the data that, although "obvious" to local insiders, may result in catastrophic misinterpretations on the part of the uninitiated.

Many of the problems of comparison could be overcome by better data documentation, but others would remain as they stem from differences in the criminal justice system. As with any criminological study, criminal career studies rely on socially constructed concepts of criminality. Ideally, a valid comparison would require that we begin by deconstructing the concepts and processes which constitute the data on which our research is based. Since this is unlikely, we should at least work harder at comparing our definitions of crime, standardizing the construction of official records, and minimizing or at least understanding the relative implications of differential patterns in reporting (that is, the dark figure of crime). As seen in Chapter 6, attempts in this direction have been carried out (Langan and Farrington, 1998; European Group on Crime Problems, 1999), but there is still much to be done.

Having said this, it is important to emphasize that this does not suggest that the results of the Danish study are totally invalid outside of Denmark. What it does mean is that comparisons must be made carefully, since it is always possible that certain intricacies of the non-Danish studies have been misconstrued by the author.

Incapacitation

There is no doubt that incapacitation works to reduce crime. This has been confirmed by all studies measuring the effect of collective or selective incapacitation techniques. Still, incapacitation raises a lot of questions.

First of all, it has to be underlined that the exact effect of incapacitation is unknown. It is unknown because it is nearly always an estimate based on questionable assumptions concerning either the number of criminal activities that would have occurred had incarceration not been imposed, or the number of criminal activities prevented by incapacitative measures. Studies of incapacitation are seldom based on the experimental procedures that might allow a more confident measure of their effect. The Danish study is an exception, since it is based on data arising from a natural experiment. Nonetheless, the study highlights another methodological problem, namely the divergence of results obtained depending on whether one measures the incapacitative effect immediately after release or after some years. The study shows that the former measure suggests a greater incapacitative effect than the latter. This may reflect the fact that offending tends to be more frequent immediately after release and becomes less frequent later on. The Danish study indicates that, at least in case of relatively minor increases or decreases in the length of incarceration, a period of high-crime activity will merely be delayed or pushed forward. This further suggests that the real effect of incapacitation should be measured by the number of crimes not committed within a lifetime due to periods of incarceration, a measure clearly difficult if not impossible to obtain.

The results of the current study might alternatively be interpreted as suggesting that the long-term effects of incapacitation are neutralized by the detrimental effects of prolonged incarceration. Shorter prison sentences might have less harmful effects on the ability or motivation for offenders to live a law-abiding life. This underscores the difficulties involved in unraveling the diverse effects of punishment.

Cost benefit analyses are of special importance to studies of incapacitation. Incarceration is expensive, and although selective incapacitation theoretically offers a way of maximizing the incapacitative effect of imprisonment without increasing its costs, no study has demonstrated successful attainment of this goal.

There are two reasons for this. First, few if any policy makers would allow penal decisions to rely solely on the logic of incapacitation. This would create a system where punishment was meted out exclusively on the bases of individual risk assessment, and in no way related to the severity of the crime committed. All penal systems probably take incapacitation into consideration to some extent, but it is far from the only factor used to determine penal sentences. And this is as it should be since our predictions of future behavior remain far from perfect. The number of false positives and false negatives derived from risk assessments are unacceptably large.

This leads to an ethical problem related to incapacitation. If our predictions were perfect, the issue that follows would be moot. False positives raise the very important question of whether or not we can justify incarceration of offenders with the goal of obtaining an optimal incapacitation effect, but without clear evidence that this goal is being reached.

This question requires discussion and resolution at societal and political levels rather than within the criminological context. It is of great importance that criminology contribute, however, by providing sound, relevant evidence for the discussion. Apart from careful studies taking the aforementioned methodological problems into consideration, it seems sensible to present the evidence as a series of cost and benefit analyses such as those used in connection with crime prevention initiatives which calculate benefit-cost ratios (Aos et al., 1999; Welsh et al., 2001).

Deterrence

Analyses carried out in this study concerning the specific deterrent effects of a change in sentencing for property crimes concur with the results of similar studies: It is not possible to show any significant change in the rate of recidivism directly attributable to changes in the severity of the sentence. Furthermore, the Danish study shows that neither the seriousness nor the frequency of recidivism changed after amendment of the criminal law.

Despite the absence of evidence for either general or specific marginal deterrent effects, criminologists seem reluctant to draw conclusions based on this research. Reviews of research on these issues very often end by pointing out various methodological weaknesses, especially in regard to studies of general deterrence. These weaknesses are obvious. But so are the weaknesses of many other studies concerning the effectiveness of criminal justice and crime preventive measures. Compared to the readiness to accept results from, or draw conclusions regarding, evaluation studies of various forms of offender treatment or crime prevention strategies, caution seems greatest when deterrence is in focus.

This may be due to a belief that the subject of deterrence is particularly politically sensitive. Deterrence is the penal ideology par excellence, the most important legitimizing aspect of the penal system. To question this foundation may be perceived as implying higher demands for certain knowledge. Certainty concerning scientific results is an issue on which everyone can agree. The problem, however, lies in the fact that a totally unimpeachable study of deterrence is most likely unrealistic. This may partially explain why this unsettled situation continues.

Social scientists may be aware that the appearance of confusion could have dire political consequences. Rather than interpreting it as proper care and caution, the inconclusive nature of the evidence could lead politicians to disregard the results of empirical inquiries and pursue uninformed, or even politically motivated, policies.

For this reason it seems important for the criminological society to discuss whether it really is possible to design and carry out research capable of providing more solid answers to the question of deterrent effects, and if so, to go through with it. Answers concerning the deterrent effect of punishment should primarily be of a general nature. Although research regarding the differential effects of punishment is clearly important to the advancement of criminological theory, it is of minor policy relevance within the Scandinavian context because of the strong philosophical adherence to the doctrine of equality before the law. And although this general sentiment is sometimes ignored, even in Scandinavia, there is a limit to how often and how far the system will allow that to happen.

Treatment and Intervention

Seventy-five percent of the offenses analyzed in this study occurred as acts of recidivism which, in general, tend to be more serious than those committed by single-registration offenders. This suggests that efforts to reduce recidivism are extremely important. Whereas research and policy focused on deterrence and incapacitation as cures for recidivism during the 1980s and early 1990s, treatment and intervention have regained great influence as cures during the past decade.

The differential effects of deterrence may be of rather limited practical relevance, but this is not the case for the differential effects of treatment and offender intervention strategies. Indeed, the demonstration of differential treatment and intervention effects represents one of the most important recent contributions to criminology. Current efforts toward rehabilitating offenders are clearly different from those seen during the mid-20th century.

The continuous flow of positive results from various studies, providing the most recent findings for criminal justice policy, from a theoretical standpoint present the most convincing argument against Gottfredson and Hirschi's (1990) hypotheses concerning the irreversible nature of criminal propensity.

Rehabilitation research could be improved still further. It would be particularly interesting to learn more about the long-term effects of particular treatments (periods of study observation are often very short). Some

short-term interventions have demonstrated short-term results, but we know little about how long these results remain effective or whether they reduce recidivism on a long-term basis. There is also a need for evaluations that focus on treatment effects other than reduction in recidivism. Offenders' lives tend to be characterized by a host of problems, crime being only one. From the perspective of both offenders and society as a whole, other treatment effects might be just as important, if not more so, than crime reduction.

The important concepts for improved rehabilitation programs may well lie more in the area of improvements in practice and the development of new means and measures than on improvements to research methods. This is at least the case in Denmark, as correctional research and innovations within psychology and social work have been rather scarce.

Final Remarks

As early as 1890, a European penal society, *Union internationale de Droit pénal*, proposed strengthening the relationship between science and penal law by establishing institutes of criminological research. The first research centers of this type were established in Europe within the next two decades. European criminological research has therefore always been closely connected to the needs of the criminal justice system. Practical matters required empirical knowledge of offending and offenders in order to deal with crime. European criminology was thus born an applied science. And so it largely remains.

Yet even the most practical, applied research makes room for questions that lack immediate practical significance. This is how knowledge is built. Exploratory studies and basic research provide such knowledge. And these are the areas to which criminal career research belongs. As long as it generates useful knowledge, research need not serve immediate practical purposes or underlie the testing of hypotheses derived from criminological theories. To question the utility of this type of research is not meaningful. First and foremost, criminal career research offers a method of structuring crime data and of decomposing aggregate crime figures.

As criminal career research develops and becomes more frequent it becomes quite useful, providing information on the changes in individual offending patterns that lie behind more general trends in overall criminality.

However, criminal career research is still very young. This is demonstrated in the present study, as well as in many others, by the fact that more questions are raised than are answered. Global patterns in criminal careers are most in focus here, as opposed to various details that may, and should, be taken

up in subsequent investigations. One can only point to the practical implications of the criminal career research in a general way, because it has only just lifted the corner of the veil covering an enormous plain of unknowns. Methodologically, criminal career research is also in its infancy. Relatively few new methodologies have been developed and there is need for many new models and methods capable of digging further into the range of data available for studies of the criminal career.

A look at the recent history of criminology suggests its rather rapid development. Subjects that were targets of criminological dissertations just a couple of decades ago have now become common knowledge available from standard criminological texts.

It seems likely that the future will show similar trends for criminal career research, since patterns in individual offending will no doubt enter the standard criminological consciousness and become part of the routine procedure used in decoding crime data.

Such developments do not occur on their own. They require an ongoing effort to improve crime data, standardize offense definitions, and increase access to relevant methods. Criminology is likely to advance and improve on many fronts in the coming years, and criminal career research is certainly bound to be one of them. Through its efforts in both applied and basic research, the study of criminal careers promises to provide tremendous insight into the causes and prevention of crime, and at the same time challenge our understanding of this important social phenomenon.

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